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# **HYPOCHONDRIASIS**

A CLINICAL AND NOSOLOGICAL STUDY

A thesis submitted for the degree of M.D.  
of the University of Cape Town, by  
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**To Marlene**

# HYPOCHONDRIASIS.

## A CLINICAL AND NOSOLOGICAL STUDY.

### CONTENTS.

	Page
Acknowledgements	1
Summary	2
 <u>Chapter I:</u>	
<u>A Review of the literature on Hypochondriasis</u>	
Historical Background	4
A survey of the literature since 1900	13
Definition	13
Psychopathological Aspects	18
Nosological Status	22
Classification of various types of Hypochondriacal Phenomena	23
The Position of Hypochondriasis in the Classification of mental disease	28
The incidence of Hypochondriacal Disorders	30
The occurrence of Hypochondriacal Symptoms in association with other conditions	33
Sex and age Incidence	35
Civil Status	36
Social class, Occupation and Intelligence	37
Ethnic Factors	39
<u>The Clinical Presentation of Hypochondriacal Phenomena</u>	39
Personality Factors	44
Hypochondriacal Phenomena occurring as a feature of other Psychiatric Disorders :	
(i) Hypochondriasis and Depressive Illness	46
(ii) Hypochondriasis and Schizophrenia	51
(iii) Hypochondriasis and the Psychoneuroses, with special reference to "Nosophobia"	56
<u>Aetiological Considerations:</u>	
Factors operating during childhood	58
Iatrogenic Factors	59
The role of organic dysfunction	60
The role of "secondary gain"	61
Psychoanalytic studies	65

	Page
<u>Therapeutic Aspects</u>	
<u>A Critical Review of some Clinical and Psychometric Studies of Hypochondriasis</u>	69
1. Clinical Studies	69
2. Psychometric Studies	79
<u>Chapter II:</u>	
<u>The Present Study</u>	
Introduction	86
<u>Part One</u>	
<u>A Comparative Study of Newly Referred Hypochondriacal and Non-Hypochondriacal Patients</u>	88
<u>Methods</u>	
a) Case Selection	88
b) Data Collection	88
c) Statistical Procedures	89
<u>Results</u>	91
Incidence	91
Sex Ratio	91
Age	91
Number of Siblings	94
Civil State	95
Social Class	97
Size of Family	99
Mode of Referral	100
Diagnosis	101
Family History of Psychiatric Illness	115
<u>Summary of Findings in the New Patients Study</u>	116
<u>Part Two</u>	
<u>A Personal Study of 147 Hypochondriacal Subjects and 65 Controls.</u>	118
Methods and Criteria	118
Criteria of Case Selection	118
Definition of Hypochondriasis	118
The Non-Hypochondriacal Patients - Criteria	119
Data Collection	119
<u>Results</u>	124
Sex Distribution	124
Age Distribution	124
Civil State	127
Social Class	128
Source of Referral	130
Clinical Setting of first Research Interview	131

	Page
<u>Clinical Features</u>	134
Duration of Illness	134
Diagnosis	135
Symptomatology	139
Cornell Medical Index	145
Item Analysis	151
Conversion Symptoms	161
Obsessional Features	162
Depersonalisation	163
History of suicidal Attempt	164
Current Physical Illness	165
Referral to Non-Psychiatric Consultants	167
History of Surgical Operations	168
History of previous Psychiatric Illness	170
Premorbid Personality	171
Family History of Psychiatric Illness	176
Hypochondriasis in Parents	177
Prolonged exposure to Illness in Parent or Sibling	179
Number of Siblings	180
Position in Sibship	182
Childhood Stress	183
Childhood Health	186
<u>Occupational Adjustment and Intelligence</u>	192
Marital Adjustment	194
Sexual Adjustment	197
Dysmenorrhoea	198
Menopause	199
<u>Other Factors of possible aetiological Significance</u>	
Physical Illness or Operation	200
Accident	202
Compensation	202
Exposure to Illness in a Relative or Friend	202
Feelings of Guilt	204
Feelings of Resentment and Hostility	206
Influence of Mass Communication Media	209
Influence of "Medical" Books	210
Iatrogenic Factors	210
Bereavement	211
Involvement in the Care of a Sick Person	212
<u>The 147 Hypochondriacal and 65 Control Patients:</u>	
Summary of Significant Findings	214
<u>Treatment and Outcome</u>	217
Criteria for Grouping based on Clinical Outcome	218
Length of Follow-up	218
Treatment	219
In-Patient and Day Hospital Treatment	221
Disposal when last seen	224

	Page
<u>Variables Related to Clinical Outcome</u>	
Age	226
Exposure to Illness in Parent or Sibling	228
Sexual Adjustment	229
Duration of illness on Referral	230
Diagnosis	232
Symptomatology	233
Previous Referrals to Non-Psychiatric Consultants	243
Premorbid Personality	244
Feelings of resentment	246
Sexual Guilt	246
Influence of Mass Communication media	247
<u>Follow-up Study: Significant Findings</u>	248
<u>Hypochondriasis and Endogenous Depression</u>	
A comparison of hypochondriacal and Control patients, matched for age, sex and diagnosis of endogenous depression	251
Summary of Findings	256
<u>"Primary" and "Secondary" Hypochondriasis</u>	257
Summary of Significant Findings	273
<u>Chapter III</u>	
<u>Discussion</u>	275
(i) The New Referral Study	278
(ii) The Personal Study of 147 Hypochondriacal and 65 Non-Hypochondriacal Patients	284
Factors Related to Clinical Outcome	306
The Nosological Status of Hypochondriasis	311
<u>Main Conclusions and Synthesis</u>	315
<u>References</u>	317
<u>Appendix A:</u> Cornell Medical Index: Non-differentiating items.	
<u>Appendix B:</u> Illustrative Case Histories	
<u>Appendix C:</u> Psychiatric Publications:	
(i) "The Psychiatrist's Role in the Interview Situation".	
(ii) "The Relation of Cornell Medical Responses to a Measure of Interview Behaviour."	
(iii) "An Experimental Study of a typical Phantom Pain."	
(iv) "A Study of Long-term Patients attending a General Hospital Psychiatric Department."	
(v) "Dimensions of Hypochondriasis."	

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Hypochondriasis: A Clinical and Nosological Study

Summary

The object of this study has been to investigate hypochondriacal illness in psychiatric patients. Two groups of patients have been studied.

The first consisted of 300 patients, newly referred to the Department of Psychiatry of the United Sheffield Hospitals. In this part of the study only data from case-notes were used. The main findings showed that hypochondriacal patients were older, predominated in lower social classes, were less likely to have made a suicidal attempt or to present with a psycho-sexual disorder. Hypochondriacal females were more often diagnosed as "anxiety-hysteria" and males as "endogenous depression".

The main part of this study has involved the investigation by the author of 147 hypochondriacal and 65 non-hypochondriacal patients. The main emphasis has been on the elucidation of clinical and nosological problems.

Factors significantly related to prognosis have been delineated. The main findings were that depression and anxiety indicated a good prognosis. In men, increased age was associated with a poor prognosis and in females a hysterical premonitory personality was similarly an indication of a poor outcome.

Evidence has been found which demonstrates that "primary hypochondriasis is a clinical entity which should be regarded as independent from "secondary hypochondriasis. It has been shown that patients

"secondary" hypochondriasis. It has been shown that patients with primary hypochondriasis are clinically distinct in a number of ways and are also treated differently. Specifically, patients with "primary" hypochondriasis have a longer illness on referral, have less depression or anxiety and are less likely to be treated with electroconvulsive therapy, anti-depressants or sedatives.

This investigation represents the largest group of hypochondriacal patients who have been personally and systematically studied with the use of a control group, and appropriate statistical techniques.

Chapter I:

A Review of the Literature on Hypochondriasis

HISTORICAL BACKGROUND

The origins of hypochondriasis may be traced back to the earliest days of medicine. Diocles is credited with being the first to describe the clinical picture in 350 B.C. (Ladee 1961). Hippocrates used the word in its anatomical sense, referring to "the part of the body below the cartilage of the breast bone" but the term came to refer to the viscera situated in that region, namely the liver, spleen, gall bladder and stomach. According to the humoral doctrines which held sway until the eighteenth century, it was from these viscera that black bile arose and by disturbing the humours, gave rise to melancholia. Hypochondria was not differentiated from melancholia and was essentially a physical disorder in which the brain was affected.

Hippocrates described the clinical picture of gastro-intestinal symptoms associated with psychological symptoms but it was Galen in 1 B.C. who named the condition "Morbus hypochondriacus" (Gillespie 1929). Until the eighteenth century Galen remained the authority and the concept of hypochondria as a condition consisting of abdominal discomfort and depression altered little throughout this period.

Very little is, of course, known of medieval medicine, during which time psychiatric illness became the concern of witch hunters rather than doctors. As medicine emerged from this era it was clear that the writings of the Greek and Roman physicians had survived largely unchanged with hypochondriasis and melancholia considered practically synonymous.

Bartholomeus Anglicus (1470) considered melancholia to be a form of mental illness in which patients showed irrational fear and depression,

at times associated with such delusions as the belief that they were earthen vessels which might break if touched, that they possessed leaden heads or no heads at all. Barrough, more than a century later, in 1583, described melancholia in almost identical terms. Robert Burton, who was not a doctor but a clergyman, in 1621 published "The Anatomy of Melancholy" in which he views hypochondria as a type of melancholy originating in the bowels, liver, spleen or mesentery. His description of the mental symptoms are worth quoting since they go beyond the usual listing of bizarre delusions. He states, "some are afraid they shall have every fearful disease they see others have, heare of, or read. If they see one possessed, bewitch't, or an Epileptick Paroxysm, a man shaking with the palsy or fiddy-headed, reeling or standing in a dangerous place ... they apply all they see, heare, read to themselves ... and will be sick and apply all symptoms they find related to others to their own persons ...".

Sir William Petty (1653) also drew attention to what one would now describe as the non-psychotic aspect of hypochondriasis in his letter to the eminent chemist, Robert Boyle. He pointed out to Boyle that "the ... disease you labour under, is, your apprehension of many diseases, and a continual fear, that you are always inclining or falling into one or another". Gideon Harvey (1672) considered such pre-occupations potentially dangerous, and that it was not uncommon for hypochondriacal patients "to be posted into consumptions by force of the imagination".

Towards the end of the seventeenth century a new development in the

history of hypochondriasis occurred. A number of writers began to discuss its relationship to hysteria - a condition which had been first described in the hippocratic era and whose occurrence in men had long been recognised despite its supposed association with a uterine disturbance (Ackerknecht 1959). Despite this new association there was no evidence of any tendency to separate hypochondria or hysteria from melancholia. At times all these conditions were referred to collectively as the "vapours" and by some as the "English malady" (Cheyne 1733).

Thus Sydenham (1682), Willis (1684), De Mandeville (1711), Blackmore (1725), Cheyne (1733) and Dover (1733) all grouped these three conditions together, some stressing the depression (Sydenham 1682), some the escape into invalidism (Willis 1684) and others the "long train of complaints and ... sad variety of sufferings" including "vertiginous swimming and giddiness, excessive lightness or dullness and melancholy ... ringing noises in the ears ... inability to sleep" and "sad or monstrous dreams" (Blackmore 1725). The relationship between hypochondriasis and hysteria is well exemplified by the statement of Dover (1733) that "here are two different names for the same distemper ... what we call hypochondriacal in man, we term hysterical in women".

In 1740 Malcolm Flemyng grouped hypochondriasis and hysteria under the general title "Neuropathy" and seems to have initiated the trend towards separating these conditions from melancholia. That these diagnoses were not too scrupulously applied or clearly defined is made

clear by Robert Whytt (1765) who wrote that it was "commonly given to many symptoms seemingly different and very obscure ... (and) has often made it be said that physicians have bestowed the character of nervous on all those disorders whose nature and causes they were ignorant of".

A number of writers developed the concept of hypochondriasis as an independent condition. Bossier de Sauvages in 1770 considered hypochondriasis a special form of insanity in which "the hallucination comes from the excessive devotion of the mind to the preservation of the body, by excessive self love, for life and pleasure, and by the susceptibility which accompanies this love of oneself".

Thomas Arnold (1782) distinguished between hypochondria as a special variety of "notional insanity" and melancholia which he named "pathetic insanity".

William Cullen (1784) introduced the term "neurosis" which he separated from the "vesaniae" (insanities). He emphasized the distinction between hypochondria and melancholia, writing, "Hypochondriasis I would consider as being always attended with dyspeptic symptoms; and though there may be at the same time an anxious melancholic fear arising from the feeling of these symptoms, yet while this fear is only a mistaken judgement with respect to the state of the person's own health, and the danger to be from thence apprehended, I would still consider the disease as a hypochondriasis, and as distinct from the proper melancholia; but when an anxious fear and despondency arises from a mistaken judgement with respect to other circumstances than from those of health ... it is what I would strictly name melancholia".

Despite these writings, some authors continued to equate hypochondria with melancholia and to consider them as due to some gastro-intestinal disorder (Boswell 1777, Sayer Walker 1796, Benjamin Rush 1812 and John Reid 1816).

On the other hand Sir Alexander Crichton (1798) considered the two conditions separate, as did Esquirol (1817) who wrote "Hypochondriacs have illusions which spring from internal sensations. These persons deceive themselves, and have an illusion respecting the intensity of their sufferings; and the danger of losing their life. But they never attribute their misfortunes to causes repugnant to reason". He drew attention to the "cases of melancholy which have succeeded hypochondriasis".

J. P. Falret (1822) bemoaned the fact that his contemporaries had not progressed beyond the days of Hippocrates with regard to hypochondria. He seems to have been the first to lay particular emphasis on the fact that hypochondria was not a mental disorder secondary to an affliction of the abdominal viscera but that the opposite was closer to the truth. "How much more good one could do for these unfortunates" he writes "if instead of tormenting their stomachs with drugs of all kinds, we treated them as mentally disordered - as we should if we only bothered with the real cause of the illness".

For the remainder of the nineteenth century until Kraepelin ushered in the scientific phase of psychiatry discussion proceeded on the nosological status and aetiology of hypochondriasis. That nosological discussions were not considered very relevant by some physicians is

suggested by the writings of David Unwins (1833) who commented "It has been absurdly enough made a question whether hypochondriasis in men and hysteria in women be the same complaint, as if either of them was an actual specific distemper like small-pox, or were at all capable of being considered apart from the subject of it". If others held this opinion they did not retard the flow of the debate in any way and medical men continued to speculate on the nature and origins of hypochondriasis.

Thomas Prichard (1840) drew a distinction between hypochondria, "lunacy" and melancholia. He noted that a "hypochondriac is in full possession of his reason" but that these patients did occasionally develop features of insanity "though by no means so frequently as is supposed". With regard to the differentiation from melancholy he wrote "... Hypochondriacs, however low-spirited or dejected, also suffer differently from persons affected with melancholy. The apprehensions of the former are confined to their own feelings and bodily health ... melancholiacs view all things through a gloomy medium ..."

An aetiological theory advanced by some was that of a disturbance of sensation. Brachet (1844) believed that in hypochondriasis the brain was affected by a disorder of the stomach which increased and modified the irritability of the central nervous system thus "... In providing the imagination with a thousand painful or unpleasant and more or less bizarre sensations it ends by vitiating the operations of the organ of intelligence and by leading it to transfer into illness not only the multiple sensations it experiences, but ideas which are suggested

to it by morose and bizarre reflections".

Romberg (1851) hypothesized a similar pathological process but suggested a non-gastric origin. He considered that there existed a state of "psychical hyperaesthesia" in which an increase of existing sensations occurred as well as the creation of new sensations by ideas. In fact he regarded hypochondriasis to be present only if the mental attitude had created new sensations by causing local increase of blood supply.

Bucknill and Tuke (1858) speculated similarly as to whether "it is not highly probable that in some instances, the firm conviction of an individual ... that he has, or is about to have some ... disorder, and the constant dwelling upon and dreading it, may produce, by some mysterious power, the very disorder upon which his apprehensions are concentrated". Like Brachet (1844) and many others they also believed the cause to be "usually some form of dyspepsia, or some morbid state of the digestive organs". They concluded that hypochondriasis was an entity which might be termed "simple hypochondriasis" as distinct from "hypochondriacal melancholy; or melancholy, the prominent symptoms of which are of a hypochondriacal nature". In simple hypochondriasis "... suicide is never committed ... the intellectual power remains intact and the emotions are in a normal state".

Forbes Winslow (1863) took a similar line considering hypochondriasis to be "a morbid anxiety as to the health" and "essentially a diseased concentration of the attention upon, and consequent exaggeration of conditions of physical sensibility, resulting from slight body ailments

which eventually assume to the distempered and deluded imagination a grave significant character".

With regard to the relationship of hypochondriasis and melancholia Griesinger (1867) took a compromise position in that while he considered the "hypochondriacal states" to be "the mildest, most moderate form of melancholia" he pointed out that they "have many peculiarities which essentially distinguish them from other forms of melancholia". Once again like Brachet (1844) and Bucknill and Tuke (1858), he ascribed the cause to "irritation of the nervous centres arising from peripheral disease - often very obscure and concealed - of the viscera ... These morbid sensations are always increased through the direction of the attention to them ..." In addition, however, Griesinger believed that psychogenic factors ("direct moral causes") could result in hypochondriasis "inasmuch as through external circumstances the ideas may be so constantly directed to the state of the general health, or of one particular organ, as to induce morbid sensations". This less severe form of hypochondriasis was "particularly observed in those who read medical books, who are frequently in the company of hypochondriacs or during the time of an epidemic, as of cholera ..." He found that hypochondriacal states were "... extremely frequent" in young people, commoner in men and tending to run a very chronic course.

Anstie (1871) also found the condition commoner in men and resistant to treatment. He considered hypochondriasis separate from but "closely allied to insanity in its phenomena".

Beard (1880) in his book "A Practical Treatise on Nervous Exhaustion

(Neurasthenia)" defined hypochondriasis as "groundless fear of disease" and disagreed with the tendency of some authors to apply the term to such conditions as "simple mental depression without any morbid fear" as well as other phobias. Although he distinguished between hypochondriasis and neurasthenia he nevertheless believed that it could often be a symptom of the latter illness.

By the end of the 19th Century, therefore, little agreement had been reached on the questions of the aetiology or nosological status of hypochondriasis. While some authors recognised that it could be the result of psychological factors, others continued to postulate a variety of physical causes.

In addition, the independence of hypochondriasis from depressive illness and hysteria remained an open question, and one which continued to exercise the minds of psychiatrists in the ensuing years.

A Survey of the Literature Since 1900

Definition

The terms "hypochondria" and "hypochondriasis" are used interchangeably in the literature although the latter seems to be in greater use currently. For the purposes of this review the term "hypochondriasis" will be always used unless an author is quoted directly.

The 1901 and 1930 editions of the Oxford English Dictionary provide definitions of hypochondriasis which are clearly derived from medical writings. Thus "hypochondria" is defined as: "The soft parts of the body below the costal cartilages," and also as: "A morbid state of mind characterized by general depression, melancholy or low spirits for which there is no real cause." Interestingly, "hypochondriasis" is defined separately as "hypochondria in its pathological aspect; a disorder of the nervous system, generally accompanied by indigestion, but chiefly characterized by the patient's unfounded belief that he is suffering from some serious bodily disease." The definitions given in later editions of the dictionary show interesting changes. The Concise Oxford Dictionary of Current English (1944) defines "hypochondria" as a "morbid state of depression for which there is no real cause." However, the Shorter Oxford English Dictionary (1950) once again defines "hypochondria" and "hypochondriasis" separately. The former is "general depression, melancholy, or low spirits, for which there is no real cause" and the latter "A disorder of the nervous system, generally accompanied by indigestion, but chiefly characterized by the patient's

unfounded belief that he is suffering from some serious bodily disease."

A synthesis is attempted in the Concise Oxford Dictionary (1959) by defining "hypochondria" as "morbid depression either apparently causeless or due to (unnecessary) anxiety about health." This attachment to archaic definitions does not seem to have affected the Encyclopaedia Britannica. Thus the 1881 edition defines hypochondriasis as "simple false belief as to the state of health, the intellect being otherwise unaffected." The term is regarded as synonymous with "the spleen" and the "vapours". The 1956 edition defines it as a "morbid mental symptom which consists in an undue pre-occupation in one's own state of health with a tendency to find evidence of disease from insignificant origins".

In medical writings the anatomical meaning of "hypochondria" has long fallen into disuse although of course the term "hypochondrium" is still used to refer to the area below the costal cartilages.

There is less uniformity to be found however in the definitions of hypochondriasis as a symptom of mental illness. Authors tend to stress differing aspects of the hypochondriacal state, few of them making clear which features they could consider essential to the definition.

There is general agreement that hypochondriasis implies an abnormal or morbid attitude to illness and health. The disagreement arises over the precise nature of the abnormal attitude and over the aspect of illness or health which is its object. A further problem is the criterion to be used in deciding at which point the attitude towards

illness moves from normal to abnormal.

Gillespie (1928) describes the abnormality of attitude in "hypochondriasis" as "a mental pre-occupation" and a similar approach is taken by a number of other authors who describe hypochondriasis as "morbid preoccupation", Lewis (1934); "habitual preoccupation ... or habitually exaggerated concern" (Cameron 1947); "somatic and/or physiologic pre-occupation" (Laughlin 1956); "exaggerated concern" (Noyes 1959) and "persistent pre-occupation" (Katzenelbogen 1942). Noyes (1959) emphasizes that hypochondria should be considered "a disturbance of ideational content" with an abnormal concentration of the attention. Similarly, Kanner (1946) considers the centering of the attention to be the essential abnormality, while Kraepelin (1904), McGraw et al (1941) and Jaspers (1959) emphasize the persistent "self observation" and "self scrutiny". Stafford-Clark (1962) describes a "morbid pre-occupation", and Masserman (1961) "a tendency to excessive and prolonged concern". Ladee (1961) believes that a phenomenological approach should be taken "towards the various modes of somatic experience in hypochondriacal syndromes". He considers that "the hypochondriacal mode of experience can be characterized as a thorough, continuous and predominant interest and determined concern with the self, which in its turn is generated by an intense absorbing experience of decay, which invariably takes a concrete form."

It has also been pointed out that the attitude in hypochondriasis may be anxious or fearful (Leonhard 1961), Alexander 1949, Bakwin & Bakwin 1953, Chapman 1962, Fish 1964, Greenfield & Roessler 1958, Glover 1949,

Maslow & Mittelman 1951, Stenback & Jalava 1961). On the other hand, some authors describe the disorder as being a morbid belief or conviction which is not altered by explanation or reassurance (Cobb 1946, Culpin 1931, Gillespie 1928, Henderson & Gillespie 1962, Heerr & Osel 1952, Ross 1923.)

Thought content in hypochondriasis is variously described by authors depending to some extent on what they regard to be the nature of the abnormal attitude. Thus pre-occupations are described as being concerned with "the whole or one part of the body" (Lewis 1934, Alexander 1949, Maslow & Mittleman 1951, Busse 1956, Bibring 1964), "bodily sensations" (Allison 1928, Masserman 1961, Jaspers 1962), "bodily health" (Katzenelbogen 1942, Stafford-Clark 1962) and, less specifically, "one's own state of health" (Defendorf 1902, Bleuler 1924, McGraw & Pietrowski 1941, Heerr & Osel 1952, Laughlin 1956).

Where the attitude is described as one of fear it is of "disease and death" (Alexander 1949), "some terrible illness" (Fish 1964), "physical illness" (Fenichel 1955, Stenback & Jalava 1961) or simply of "being ill" (Leonhard 1961).

In the case of morbid beliefs the patient may be convinced "that he is suffering from some visceral disease...." (Cobb 1946) ".... the body or a portion of it ... is either diseased or not functioning properly" (Busse 1956), "the existence of organic disease" (Culpin 1931), "physical disease" (Henderson & Gillespie 1962), "some grave bodily disease" (Heerr & Osel 1952), or "that they have an incurable disease" (Kraepelin 1904).

Some authors take quite a different approach to the definition of hypochondriasis and consider the bodily sensations to be the central feature. Thus Brown (1936) defines it as "a bodily complaint for which no adequate physical cause can be found". Similarly De Alarcon (1964) uses the definition "a physically unjustified body complaint". Ray and Advani (1962) define hypochondriasis as symptoms which cannot be explained by any organic factors, do not conform to any single specific clinical entity and are refractory. Richards (1940) states that hypochondriasis "consists of a simple or diffuse eruption of somatic complaints". Shirvaikar (1957) describes the condition as "... the presence of symptoms mostly vague but in the nature of unpleasant sensations without proper physical basis and which may or may not be backed by ideas of disease". Mayer-Gross, Slater and Roth (1960) describe the condition as one in which bodily sensations which do not normally reach awareness "secure conscious appreciation". Strecker and Ebaugh (1935) consider the condition to be "a chronic complaint habit".

Most authors specify either an absence of objective physical pathology (Henderson & Gillespie 1962) or the presence of "insignificant" pathology which the patient "exaggerates" (Bakwin & Bakwin 1953, E. Bleuler 1924, Brown 1936). The "discrepancy between the degree of pre-occupation and the grounds for it so that the former is far in excess of what is justified".

A lack of response to reassurance is mentioned in a number of definitions. Gillespie (1928) refers to an "indifference to the

opinion of the environment, including irresponsiveness to persuasion"; and Bibring (1964) "an overall suspicious attitude towards the doctor's reactions and comments". Wahl (1963) states that "these patients appear to be angered by attempts of the physician to assuage their fright or concern", and similarly Schilder (1930) "it is not possible to convince him that his fears are without basis". Brown (1936) contrasts this with the behaviour of the normal individual who may become concerned over a symptom but will respond to the doctor's reassurance.

In summary it may be said, while definitions vary greatly, there is some measure of agreement that it should be regarded as a condition in which there is a preoccupation with illness in oneself which appears excessive in relation to the objective pathology. This preoccupation manifests as persistent complaining despite reassurance given by a doctor.

#### Psychopathological Aspects

The term "psychopathology" is used here as defined by Jaspers (1962) and does not indicate "psychodynamics" in the psychoanalytic sense. For Jaspers the delineation of a psychopathological state involves a phenomenological analysis of the patient's experience. As Anderson (1964) states, this means "portraying in words as subtly and accurately as possible the nature of this experience, defining it, differentiating from or relating it to other experiences and, for further accuracy, describing it in technical terms." The purpose here is to focus on those aspects of the technical description of hypochondriacal ideas

which have given rise to disagreement.

It is generally accepted that hypochondriacal ideas may take the form of phobias, delusions and obsessions. Difficulties arise in the remaining cases where hypochondriasis can only be described as an excessive pre-occupation. Often the problem centres on whether it is a neurotic or a psychotic manifestation or more specifically a delusional or a non-delusional idea.

In discussing this Brown (1928) stresses the difficulty of distinguishing between delusional and non-delusional hypochondriacal ideas. He feels that the patient who continually complains of symptoms but leaves their interpretation to the doctor is not suffering from a delusion but adds "... In one sense, in that it is a false conviction of physical disease, simple hypochondriasis may be regarded as a delusion. Certainly the so-called simple hypochondriasis frequently blends with a hypochondriacal delusion, and the distinction between hypochondriasis and hypochondriacal delusion seems to be a useless one."

Katzenelbogen (1942) disagrees strongly with this approach which he feels "epitomises the confusion" over this problem. He argues that the distinction is an important one and suggests that hypochondriacal delusions should be referred to as "somatic delusions" so as not to confuse "psychotic delusions of somatic content with essentially hypochondriacal complaints in non-psychotic individuals". Meltzer (1964) takes the same position and describes the clinical differentiation of somatic delusions from "hypochondria". He states "the most striking contrast is in the area of social visibility. While the hypochondriacal

symptom tends to be reported with a certain irritability and an expectation that its physical basis will neither be seen nor seriously searched for, the somatic delusion is shyly and suspiciously confessed under the pressure of a delusion of reference that everyone notices it but no-one will bother to help with it." This description seems, however, to limit the nature of somatic delusions in a way which would not receive general acceptance.

Schilder (1930) makes the point that although hypochondriasis may come close to being a psychosis, this is only the case "when there is not belief but conviction".

In some patients the hypochondriacal preoccupation is regarded as a non-psychotic abnormality which fits best into the category of "over-valued idea". Jahreiss (1930) states that this is one of the three forms hypochondriacal thinking may take; the others being anancastic and delusional,

Over-valued ideas are defined by Jaspers (1962) as "those convictions that are strongly toned by affect which is understandable in terms of the personality and its history...." "Psychologically there is no difference between scientific adherence to truth, passionate political or ethical conviction and the retention of over-valued ideas. The contrast between these phenomena lies in the falsity of the over-valued idea... it may also occur as a so-called 'delusion' - 'delusions' of invention, jealousy or of querulant behaviour, etc. Such over-valued ideas must be clearly differentiated from delusions proper. They are isolated notions that develop comprehensibly out of a given

personality and situation. Delusions proper are the vague crystallizations of blurred delusional experiences and diffuse, perplexing self-references which cannot be sufficiently understood in terms of the personality or the situation; they are much more the symptoms of a disease process that can be identified by the presence of other symptoms as well".

Fish (1964) distinguishes between anancastic (obsessional) personalities who develop hypochondriacal ideas which resemble phobias (over which they can at times be reassured) and other hysterical personalities or "asthenic psychopaths" who appear "to be suffering from an actual pain although there was no physical basis for it. The hypochondriasis appears to be of the nature of an over-valued idea or delusion in such patients".

The final possibility to be considered is that hypochondriacal preoccupation represents a specific abnormality which cannot be defined in terms of any other psychopathological entity. This would seem to be the position taken by those workers previously mentioned who regard the essential abnormality to be a pre-occupation and concern with illness, health or bodily function and consider this pre-occupation to be non-psychotic.

It is probably this particular area of uncertainty concerning the psychopathological nature of hypochondriacal ideas which contributes in large measure to the controversy over the nosological status of hypochondriasis.

### Nosological Status

According to Jaspers (1962) "Clinical pictures of diseases that have similar causes, a similar basic psychological form, similar development and course, similar outcome and a similar cerebral pathology and which therefore all present the same over-all picture, are genuine natural disease entities". He states, however, that in psychiatry no such disease entities have been discovered. Other writers are rarely so explicit in stating their criteria for regarding a disorder as a disease entity and this has tended to diminish the value of their opinions on the nosological status of hypochondriasis.

Kraepelin (1904), having carried out his mammoth task of ordering clinical psychiatric data, concluded that hypochondriasis should not be considered an entity but rather "part of neurasthenic insanity". A procession of workers have continued to maintain that hypochondriasis never occurs as an entity, (Bleuler 1924, Ross 1928, Alexander 1949, Fenichel 1955, Ray and Advani 1962 and Kenyon 1964). Of these only Kenyon (1964) has attempted to investigate the problem systematically. He concluded that hypochondriasis was always part of another condition, usually a depressive illness.

The view that hypochondriasis is an entity has been advanced in the main on the basis of unsystematic clinical impressions of few cases although Katzenelbogen (1942) and Shirvaikar (1957) did study larger series of subjects. Gillespie (1928) and Roth (1959) both maintain that "primary hypochondriasis" exists as an entity distinct from the affective disorders and this view is also held by Allison (1928),

Culpin (1931), Schilder (1938), Macalpine (1953), Stafford-Clark (1962) and Bibring (1964). Reynell (1928), while agreeing with Gillespie that hypochondriasis is a clinical entity, regards it as a "somewhat rare condition". Symonds (1928) takes essentially the same position as Reynell and regards himself "half convinced" by Gillespie (1928). What might be considered a compromise position was taken by Wollenberg as early as 1904. While of the opinion that hypochondriasis is not a disease entity but rather a "psychopathological state", he nonetheless felt that in certain subjects where hypochondriacal phenomena are the predominant clinical feature they constitute an entity for all practical purposes. More recently, Cocognani (1963) seems to take a position very close to that of Wollenberg (1904), when, having described various hypochondriacal phenomena in relation to other psychiatric conditions he is left with "hypochondriacal pictures which seem to escape from a more exact diagnosis, not being considered sufficiently established the possibility that they constitute an autonomous hypochondriac form". The manner in which the various types of hypochondriacal phenomena have been grouped provides a further insight into the psychopathological and nosological concepts held regarding hypochondriasis by some psychiatrists.

#### Classification of various types of Hypochondriacal Phenomena

In classifying hypochondriacal phenomena a number of writers have stressed the division into hypochondriacal anxieties and hypochondriacal sensations (Glover 1949, Fenichel 1955 and Hunter et al 1964).

Leonhard (1961) has coined new terms for these two classes of symptom, viz "ideo-hypochondria" for the fear of illness and "sensohypochondria" for the hypochondriacal sensations.

James' (1960) grouping is similar, consisting of (i) the personality trait of body over-concern (ii) hypochondriacal anxiety and (iii) hypochondriacal delusions".

Schilder (1938), Katzenelbogen (1942), Meltzer (1964) and Nissen (1961) have also grouped these phenomena into those which are neurotic and those which are psychotic.

The hypochondriacal phobia of illness, termed "nosophobia" by some authors (Ryle 1948, Hunter 1964) has been classified by Ryle (1948) into three groups:-

- a) obsessional nosophobia
- b) nosophobia accompanying physical disease and certain alarming seizures and
- c) nosophobia without definite disease.

The most comprehensive classification has been devised by F. Brown (1936), who divides hypochondriasis into the following groups:-

"1. Psychoneurotic or merergasic hypochondriasis:

- (a) Body complaints which are the psychological accompaniments of the anxiety affect in anxiety states
- (b) Body complaints as a substitute for anxiety without the anxiety affect. This type of hypochondriasis is regarded as one of the types of "conversion"

(c) Body complaints in which purposiveness, recognised by dramatization, is a factor. This group comprises the typical invalid reaction chiefly seen in women

2. Schizophrenic or parergasic types of hypochondriasis:

- (a) Bizarre bodily complaints, often considered delusions, which are here considered to be on a symbolic basis, representing the various, often sexual difficulties of the patient in the form of more or less indirect symbols
- (b) Vague bodily complaints, such as headaches and abdominal discomforts, which are here considered to be expressive of the affect of tensivity, suspicion and anxiety

3. Depressive hypochondriasis

- (a) Bodily complaints consistent with the affect of depression
- (b) Bodily complaints inconsistent with the affect, forming a kind of substitute or conversion of the previous depressed affect
- (c) Distorted bodily complaints on a symbolic basis usually referring to death or "guilt"

Reynell (1928) and Hutchison (1934) have produced classifications which place less emphasis on symptoms or psychopathology and rather more on personality and degree of pre-occupation. Reynell states that hypochondriasis may be classified into three types in order of their frequency and curability. They are:-

- 1. Patients having a health "complex", but retaining other interests

2. Patients whose sole interest is their health
3. Patients with a delusion of illness

Hutchinson (1934) divides hypochondriasis into three main groups which he names "individual", "vicarious" and "communal". He divides the "individual" forms into:-

- (a) "The General Hypochondriac" - who is always fussing about his health and fears he is getting, or has already, some disease ... usually in advanced middle life ... who makes his health his hobby, and who collects symptoms as others collect stamps ..."
- (b) "The Nosophobe - who goes in fear of some particular disease"
- (c) "The Crank or Health Faddist - who believes that health is only to be attained by following some special rule of life" and
- (d) "The Physical Prig" - who is usually a young man with "an exaggerated standard of health and well-being"

"Vicarious Hypochondriasis" is divided into two classes:

- (a) "Parental Hypochondriasis" seen in the parents who are over-anxious about the health of their children and
- (b) "Filial Hypochondriases" seen in individuals who are over-anxious about the health of their elderly parents.

"Communal Hypochondriasis" refers to the situation where "over-anxiety about health may affect a whole community".

De Alarcon (1964) who studied elderly patients and defined hypo-

chondriasis as "a physically unjustified bodily complaint" described three groups of patients:-

- (a) these with hypochondriacal complaints only
- (b) hypochondriacal complaints and hypochondriacal convictions of a particular illness and
- (c) hypochondriacal conviction of suffering from a certain illness, without any hypochondriacal complaints.

Neither De Alarcón nor Brown (1936) mention the lack of response to reassurance as a diagnostic criterion and this seems to be a defect in their definitions which might be the cause of the high incidences of hypochondriasis which they report.

Another classification used by some workers is based on a particular nosological concept of hypochondriasis which divides cases into "Primary" or "Essential" Hypochondriasis and "Secondary" Hypochondriasis (Shirvaiker 1957, Kenyon, 1964). Clearly this classification cuts across some of those suggested by other workers such as Brown (1936) and Fox (1942).

It has been shown that classifications of hypochondriacal phenomena may on occasion differ markedly from each other. This highlights once again the lack of agreement in psychiatry over the precise nature of hypochondriasis.

Further evidence of the conflicting views on the nature and, in particular, the nosological status of hypochondriasis, is provided by the various classifications of mental diseases used in recent times. To some extent they also reflect the importance ascribed to

hypochondriasis as a clinical concept.

The Position of Hypochondriasis in the Classifications of Mental Disease

Stengel's (1960) report to the World Health Organization includes an Annex in which a large number of official, semi-official and national classifications are conveniently gathered together. These reveal a marked disparity in the methods of classifying hypochondriasis.

In the Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death (1955 revision - published by the World Health Organization in 1957) hypochondriasis appears in Section 318 (Psychoneurotic disorders, other, mixed and unspecified types). Item 318.0 consists of the three terms "Hypochondrical reaction, Hypochondria and Hypochondriasis". Thus hypochondriasis is given the status of a nosological entity in the psychoneurotic group of conditions.

Considering how widespread this condition is believed to be by some American psychiatrists (American Journal of Psychotherapy 1962) it is surprising that hypochondriasis has been dropped from "The Diagnostic and Statistical Manual of Mental Disorders" published in 1952 by the American Psychiatric Association (although it had previously appeared in the third edition of this manual). The Diagnostic Classification of the Dominion Bureau of Statistics of Canada also omits hypochondriasis.

Other classifications mentioned in Stengel's (1960) report, in which hypochondriasis is not specifically mentioned, include the French Standard Classification, the German Classification (Würzberg Scheme)

as recommended by the Deutscher Verein Für Psychiatrie, the Classifications of the Dutch Association for Psychiatry and Neurology and the Danish Psychiatry Society and the USSR classification of Kerbikov, Ozeretzkij, Popov and Snezhnevskij which is included in their Textbook of Psychiatry. The Japanese classification compiled by Professor T. Maramatsu (1960), on the basis of classification in the five Japanese textbooks most widely used, also excludes hypochondriasis.

However, a number of classifications included in Stengel's (1960) report do refer to hypochondriacal disorders. Apart from the classification proposed for official use in Norway (which includes "hypochondria" under the "neuroses"), they are not classifications which are widely used in any country. Thus, in the classification suggested by Rado, there is a reference to "hypochondriacal patterns" as one of the forms of "Emergency dyscontrol". In addition, Essen-Möller and Wohlfart's classification places "hypochondria" alongside "asthenia" and "hydrophobia" in the "Reactions" group. Professor L. Van der Horst of the University of Amsterdam has devised a classification in which hypochondriasis appears only as a personality disorder, "hypochondriacal psychopathic constitution". In Kloos' classification, the section of "Abnormal Reactions" includes the category "hypochondriacal reactions" among the "qualitatively abnormal reactions to external events". Langfeldt has the category "Neurastheniform and hypochondriacal reactions" under the "psychoneuroses" and Selbach places "hypochondriacal reactions" with the "abnormal psychic reactions". Similarly, "hypochondriacal reaction" appears under the "psychoneurotic disorders" in the "Psychiatric

Nomenclature and Classification of the United States War Department (1945).

This survey of classifications mentioned in Stengel's (1960) report suggests that, when the decision is taken to include hypochondriasis in a classification, it is usually regarded as a neurotic rather than a psychotic entity.

It is, therefore, of interest that in the proposed revised version of the section on Mental Disorders of the International Classification of Diseases the category "Hypochondriacal reaction" has been included under the "Neuroses".

In the glossary recently prepared by a Working Party of British Psychiatrists, it is defined as a "persistent anxious pre-occupation and manifest concern with health, usually physical and sometimes mental" (Stengel 1965).

In view of the absence of a generally agreed definition or clinical concept of hypochondriasis it is not surprising to find considerable disagreement over many aspects of this condition. The varying reports of its incidence are typical of a generally confused situation. They are discussed in the following section.

#### The Incidence of Hypochondriacal Disorders

An editorial in the American Journal of Psychotherapy (1962) states "... one can note a spreading perversion of individualism in a growing number of persons. This perversion takes the form of increasing pre-occupation with one's body and its functions, particularly with

minor ailments, real or apparent. Hypochondriasis and phobic phenomena of epidemic proportions are the order of the day. Conservatively speaking, patients with primary hypochondriacal symptoms or hypochondriacal overlay superimposed upon minor somatic disorders represent more than fifty per cent of all patients seen by physicians, general practitioners, and specialists alike."

Apart from general remarks of this type it cannot be said that there is an abundance of information on the incidence of this condition.

Working in England, Ross (1928) sought patients who were hypochondriacal in the absence of psychosis or dementia. In a mental hospital with 1,500 patients he found 19 such patients, all of whom were males and over 60 years of age - an incidence of 1.2 per cent. The average percentage of patients referred to the York Clinic, Guy's Hospital, London who were classified as hypochondriasis according to the International Classification of Diseases (item 318) was 4.3% for the years 1953, 1954 and 1955 (Woodside 1955, 1956, 1957).

Also in London, Kenyon (1964) reported the incidence of "primary" hypochondriasis among Maudsley Hospital out-patient referrals to be 0.9 per cent.

Surveying a rural community with a population of 1,700 in North Scotland, Primrose (1962) found a total of three cases during the period examined; giving a rate per thousand of 1.2.

The rather different picture in the United States of America may reflect the differing diagnostic criteria employed. F. Brown (1936) working at the Henry Phipps Clinic of the Johns Hopkins Medical School

studied 226 consecutive admissions. Of these 45% had hypochondriasis, defined as "a physically unjustified or exaggerated bodily complaint". However, only 7.1% of the 226 were diagnosed as "psychoneurotic hypochondriasis". Hamilton et al (1942) found an incidence of 11% among 200 hospitalized psychoneurotic patients.

Rickles et al (1949) reported on one hundred unselected consecutive cases coming for private treatment in an American city. Of these only two were diagnosed as suffering from a "hypochondriacal reaction".

In the course of a much wider study Langner and Michael (1963) found that 25.1% of 1,660 individuals studied during the course of the New York Manhattan Survey showed "hypochondriasis". These were "Respondents who agreed with many of the psychophysiological questions, but, in addition, seemed to append comments to their answers which clearly indicated a distorted perception of their symptoms, or an unrealistic nature of their response. Also a large number of respondents who seemed to have actual physical symptoms and illnesses, usually chronic, which were the subject of substantial pre-occupation, either as a source of secondary gain in the psychoanalytic sense, or in terms of excessive therapeutic ministrations or search for therapy. Also the hypochondriacal delusions of the depressed and the pre-occupations with health of the paranoid personalities". Excessive involvement with health fads and exercise were also included.

In a rather different setting - the United States Army - Rosenberg and Lambert (1942) reported on two hundred soldiers discharged for "neuropsychiatric disabilities". Of these 21% were diagnosed as

"Hypochondriasis".

In Amsterdam Ladee (1961) surveyed 9,000 psychiatric patients and found 225 (2.38%) suffering from hypochondriacal syndromes and only three with "pure" hypochondriasis - an incidence of 0.03%.

Ray and Advani (1962) found that hypochondriasis occurred in 12.5% of the psychiatric population of the Irwin Hospital in New Delhi. They defined it as a psychoneurotic disorder showing symptoms which "could not be explained by any organic factors ... did not conform to any single specific entity" and were refractory. Stenback (1961) in Finland reported an even higher incidence of 29.5% in 200 unselected psychiatric patients under 65 years of age.

With regard to hypochondriasis in children, Kanner (1937) reported that "... hypochondriac features of varying severity were the outstanding causes for referring approximately 5% of all children sent for consultation to the psychiatric service of the Harriet Lane Home". In 1957 he reported on the situation in the Johns Hopkins Hospital where he found that 7.2% of 1,000 children referred showed hypochondriasis as the leading complaint.

The Occurrence of Hypochondriacal Symptoms in association with other Conditions

The relationship of hypochondriasis to depressive illness is, of course, enshrined in psychiatric history. Bowman and Raymond (1931) found that hypochondriacal delusions were present in 6.8% of a sample of

manic-depressive patients. On the other hand, Strecker et al (1931) reported hypochondriacal delusions in 27 (40.7%) of 67 manic-depressive subjects of the depressive type.

Lewis (1934) in his classical paper on depression found that 41% of his patients presented hypochondriacal symptoms of varying types. Brown, who also used a broad definition, (1936) found hypochondriasis in 55% of cases with depression, while Grinker and his co-workers (1961) found that 30% of a sample of 96 depressed patients were hypochondriacal. Kiloh and Garside (1963) studied a sample of 143 patients diagnosed as neurotic or endogenous depression. Of these 82 (57.3%) showed hypochondriasis - clearly of the non-psychotic variety since a factor analysis showed it to cluster with "neurotic depression".

Amongst depressed patients over the age of 60 years Post (1963) found hypochondriasis in 77% while de Alarcon (1964) found an incidence of 63.6%.

Hypochondriacal features are, of course, commonly seen as part of other psychoneurotic disorders but there are few reports on their incidence. Brown (1936) using his rather broad definition found hypochondriasis in every patient comprising his small sample of eight anxiety states. Jones and Lewis (1941) found that 53% of all their patients with "effort syndrome" show "hypochondriacal phenomena" in that they "were pre-occupied with their symptoms unduly; they exaggerated their sensations and studied themselves with zealous care". Roth (1959) reported that 45% of his 135 patients with the "phobic anxiety - depersonalization syndrome" showed "hypochondriacal self scrutiny and pre-occupation".

These findings tend to support the clinical impression that, while hypochondriasis is common as a feature of other psychiatric conditions, it occurs relatively infrequently as an entity. However, considerable variation in reports of the incidence of hypochondriasis as an entity lead to the inevitable conclusion that differing diagnostic criteria are being used.

#### The Sex and Age Incidence of Hypochondriacal Disorders

Hypochondriasis is said by some authors to occur as an entity more commonly in men, and indeed Gillespie (1928) maintains that almost all such cases are men. Others, such as Allison (1928), Ross (1928), Schilder (1938) and Watters (1938) have given a similar opinion. However, Richards (1919), who described a form of hypochondriasis which she named the "invalid reaction", found that the ratio of women to men was three to one. Gehring (1932) reported the same ratio amongst "hypochondriacs", and even titled his article "Painful Women".

Other workers report no striking sex differences in the incidence of hypochondriasis as a phenomenon or a clinical entity. Apart from King (1916) these include a number of writers who are basing their statement on the examination of relatively large samples of patients (Brown 1936, Katzenelbogen 1942, Shirvaikar 1957, Ladee 1961, Ray and Advani 1962, Kenyon 1964).

With regard to the age incidence of hypochondriacal disorders it is clear that they may occur at any age. For example Richards' (1919)

cases range from 20 to 72 years of age; while Kanner (1937) and Post (1964) have described hypochondriasis in the young and old respectively. Some workers such as Schilder (1930), Kretschmer (1952) and Rosenfeld (1958) believe these disorders to be commoner in adolescence and middle age. Others maintain that hypochondriasis as a diagnostic entity is characteristically a condition of middle and old age (Allison 1928, Hutchinson 1928, Parkes Weber 1928, Ross 1928, Watters 1938, Jung 1960). Macalpine (1953), in studying pruritis ani, which she considered a special form of "primary" hypochondriasis, found that the peak age incidence was between 30 and 39 years. Kenyon (1964) found the same in a sample of 301 patients diagnosed as "primary hypochondriasis". Similarly, Shirvaikar (1957) found that the majority (65%) of his cases were young, i.e. below the age of 40 years but Ray and Advani (1962) found the peak age incidence to be between 36 and 50 years.

It would seem, therefore, that systematic investigations have tended to contradict clinical impressions although, once again, it is by no means certain or likely that the definitions used were the same.

### Civil Status

Few authors have considered civil status of any importance with regard to hypochondriasis. Ray and Advani (1962) found that it was commoner among married patients rather than those who were single or widowed and Kenyon (1964) also reports that, among the hypochondriacal patients, there were relatively more who were married and fewer single.

Social Class, Occupation and Intelligence

Despite the use of different criteria for grading social class, a number of workers have found that hypochondriasis is commoner among patients from lower social class groups. In the United States of America Michael (1960) and Langner and Michael (1963), working in New York, found that low socioeconomic status was associated with hypochondriasis and psychosomatic symptoms. A similar finding was recorded by Hollingshead and Redlich (1958), who surveyed a smaller east coast American community.

Brill and Storow (1960) found that amongst out-patients at the Neuropsychiatric Institute of the University of California Medical Centre low social class was "significantly related to lower estimated intelligence, less education, a tendency to see the presenting problem as physical rather than emotional, a desire for symptomatic relief only rather than over-all help, lack of understanding of the psychotherapeutic process and lack of desire for psychotherapy".

Downing and Rickels (1962) and Rickels et al (1964) compared neurotic patients from the psychiatric out-patient clinic and those from the general medical clinic of the University of Pennsylvania Hospital. They found that the latter patients "came from a lower socio-economic class, were more dependant, more suggestable, more anxious, more somatically and hypochondriacally focused."

Ray and Advani (1962) in India found that the highest incidence of hypochondriasis in their sample occurred amongst "semi-skilled labourers and those of lower clerical occupation". However, Kenyon (1964) did

not find any excess of hypochondriacal patients in any social class. The only profession in which hypochondriacal disorders are said to be especially common is the medical profession. Thus, doctors and medical students have been considered prone to develop hypochondriacal symptoms by some authors (Mayer-Gross et al 1960, Watters 1938, Ryle 1948, Bejar 1961). However, Hunter et al (1961) emphasised that while transient hypochondriasis might be common, true hypochondriasis is only rarely encountered.

Ray and Advani (1962) found the percentage of hypochondriasis amongst doctors, dentists and nurses to be very low but point out that such persons were unlikely to seek help at their clinic.

The relation of intelligence and education to hypochondriasis is not clear. Ray and Advani (1962) found hypochondriasis to be commoner in those patients who had a very elementary education rather than none at all. Watters (1938) and Kanner (1957) both emphasize that neither intelligence nor medical knowledge preclude the development of hypochondriacal states. Ruesch (1947) found that psychological invalidism following thyroidectomy was associated with a lower intelligence quotient.

Insofar as a lower educational level is associated with a low socio-economic status it has been related to hypochondriasis and the tendency to see problems in physical terms (Brill and Sterrew 1960, Michael 1960).

### Ethnic Factors

Brown (1936) states that "race seems to be one factor; Jews seem to have an inborn body sensitivity and concern ..." Ladee (1961) found that Jews were over-represented in his sample of hypochondriacal patients but Kenyon (1964) was unable to repeat this finding. It is of interest that Zborowski (1952) in his study of reactions to pain showed that Jews and Italians (in America) tended to respond emotionally and to exaggerate their pain experience, while Irish and "old American" patients were more stoical.

### The Clinical Presentation of Hypochondriacal Phenomena

In this section hypochondriacal phenomena as reported in the literature will be reviewed with special consideration of their clinical presentation and their course. The parts of the body affected vary greatly indeed and any aspect of the physical or psychological functioning of an individual may become the object of hypochondriacal pre-occupation. The symptoms complained of may be multiple or occasionally single. The parts of the body involved are remarkably similar as reported in clinical studies carried out in differing cultures. Thus Shirvaikar (1957) in India, Katzenelbogen (1942) in the United States and Kenyon (1964) in England all found that the regions most commonly involved were the head, abdomen and chest in that order of frequency.

There would seem to be no physical symptoms of which hypochondriacal

patients may not complain. Shirvaikar (1957) states that "symptoms of hypochondriasis mostly comprise unpleasant sensations referred to different parts of the body. They are pains, burning sensations, numbness, coldness, hotness, throbbing sensations, sensations of movements and even unusual ones such as snapping, bursting, tightness, lightness etc."

Some authors such as Laughlin (1956) and Wahl (1963) also stress that the symptoms may shift from one part of the body to another but do not consider this an invariable feature. Hunt (1940).

Although not commonly encountered a pre-occupation with intellectual functions may constitute the main feature of a hypochondriacal disorder in some patients.

Whether the patient actually believes something to be wrong or merely fears that it may be so is often a difficult distinction to make. Lewis (1934) states "... these patients were all unduly concerned about changes in their bodies; some feared that there might be such change, others were sure of it, but this was partly, at any rate, a question of verbal form given to the pre-occupation ...". As previously mentioned, F. Brown (1936) felt that this was a difficult distinction to make and that "so-called simple hypochondriasis frequently blends with a hypochondriacal delusion". Similarly, Kreitman et al (1965) state: "we do not find it possible to distinguish between depressive delusional beliefs and fears that something is wrong ... the patient is undoubtedly concerned about his symptoms but often cannot produce any interpretation of them beyond the statement that something either is or might be amiss".

The accompanying affect, manner of communicating symptoms and

response to reassurance or treatment is commented on by a number of authors. A mood of depression is regarded as a frequent accompaniment (Kraepelin 1904, Gillespie 1928, Kenyon 1964) but Gillespie is at some pains to point out such depression is "... not out of proportion to what would reasonably be expected to accompany the knowledge of the existence of bodily (or mental) disease, supposing such existed". He considers the affect "best characterized" as "interest with conviction and consequent concern". The presence of anxiety is often referred to (Bibring 1964, Laughlin 1956) On the other hand Shirvaikar (1957) and Wahl (1963) state that these patients frequently show a hysterical "belle indifference".

Another feature often mentioned is that hypochondriacal patients seem to derive a form of pleasure from their symptoms. Thus Kraepelin (1904) states that the details of their condition "... are placed in the foreground in most detailed description and affective exaggeration whenever the opportunity arises. Such a condition often becomes the centre of all the patient's interest. It gives him status and is probably tolerated with a sort of secret pride. It may go so far that the illness, despite the restrictions it causes, becomes a source of entertainment, the chief occupation which the patient would give up only by determined if not obvious resistance". Further "... the patients despite their vivid complaints cannot work seriously or purposefully for their rehabilitation. Not infrequently they sabotage the doctor's prescription and show some satisfaction in having succeeded..."

Wahl (1963) describes a very similar picture. "The patient" he

states "quickly gives the physician the impression that there is some source of satisfaction in being sick. These patients are not only over-demanding, but irritable persistent in their illness, and are ungrateful and often unappreciative of the physician's efforts".

Kreitman et al (1965) state "we have been struck by how frequently the patient expresses in the hypochondriacal complaint not only anxiety but also some degree of satisfaction... His voice only displays any warmth or vitality when he is allowed to launch into the details of his supposed somatic disabilities, describing his ailing part with a loving concern, or at least a lively interest, strikingly lacking from the rest of his world."

The reactions of doctors to hypochondriacal patients is often markedly antipathetic and this is not surprising in the light of the preceding observations. King (1916) describes them as "the terror of the doctor". Gehring (1932) has expressed himself most vividly on this subject. He writes "whenever I ask a female to state her symptoms, and she replies, 'I have so many that I have written them on this slip of paper, in order not to forget them', it has a decidedly bearish effect upon my spirits. I know if I let her talk herself out, that eventually she will incriminate herself, albeit in the meantime I am suffering like a she-elephant in the pangs of childbirth, for I am confronted by a hypochondriac". Alvarez (1944) reveals well the ambivalent feelings toward the hypochondriacal patient when he writes "As every physician knows these worrisome persons can waste hours of time, arguing, trying to catch the doctor in some inconsistency of statement, and demanding

one test or operation after another ... they do suffer terribly ... no matter how exasperating they may be we should try to be kind and patient with them, but I think we should try to get them out of the office as quickly as possible because the time they take up is spent to no good purpose."

Hunter et al (1964) contrast the tolerant and good-naturedly indulgent attitude of physicians to "nosophobic" students who fear illness with the irritation, exasperation and final rejection which is shown to the "true hypochondriac". They ascribe this to the latter's narcissism.

Mead (1965) describes the doctor's relationship towards the hypochondriacal patient in similar terms. She states that "there are good reasons why the physician feels resentment toward the hypochondriacal patient. The hypochondriac is often unappreciative of the physician's effort on his behalf, increases his demands for attention, and criticizes the physician for failure to relieve symptoms. He resists referral to a psychiatrist, since his over-concern about physical complaints is in part a reflection of his need to deny an emotional cause for an unsatisfying life adjustment. The physician recognizes and dislikes the patient's personality traits of self-pity, dependency, inadequacy and hostility."

Wahl (1963) expresses the situation rather aptly when he states that "the hypochondriac occupies a low position on the scale of 'disease acceptability'. Few doctors like these patients. We refer to them contemptuously among ourselves as crocks and consider them the bore of

medical practice, thorns in our flesh, to be mollified or passed on to some zealous newcomer as quickly as possible."

It would seem, therefore, that the particular attitude which these patients evoke in doctors might almost be considered a diagnostic feature akin to the "glass wall effect" sometimes described in schizophrenia.

### Personality Factors

There are two aspects to the question of the personality characteristics of patients with hypochondriacal illnesses. The first concerns the existence of a specific personality type which has been named the hypochondriacal personality. The second concerns those personality traits which are regarded as possibly predisposing to the development of hypochondriasis, in view of the frequency with which they occur in patients with hypochondriacal disorders.

Patients who show life long hypochondriacal personality features have been described by Kahn (1931), Brown (1936), Katzenelbogen (1942), Laughlin (1956), K. Schneider (1959), James (1960) and Fish (1964). According to Laughlin "Overconcern with Health or Somatic Preoccupation, is frequently seen in which the level of the manifestations is sub-clinical and sub-neurotic. These instances sometimes may be definite enough to be classified as belonging to a category, which we might call The Hypochondriacal Personality". Laughlin (1956) states that the trait of health overconcern may be minimal in some of these personalities while

the characteristics of narcissism, regression and seclusiveness may be prominent and reflected in their tendency to withdraw from interpersonal relationships as their preoccupation with bodily functions develops. F. Brown (1936) refers to this personality type as "the body-sensitive personality" and James (1960) writes of "the personality trait of body over-concern". James (1960) describes the range of behaviour from "unduly punctilious observance of hygiene rules to the chronic invalid reaction, in which the individual's days are spent in consideration of his state of health, with most of his activities fashioned to this end." The development of such attitudes in childhood has been described by Richards (1941) and Levy (1932). Kahn (1931) describes the hypochondriacal personality as a person of limited physical strength, with weak "impulses" masochistic tendencies and egocentricity. Schneider (1959) does not use the term hypochondriacal personality but describes a sub-type of the asthenic psychopath which includes those "who are prone to make physical complaints." Fish (1964) also stresses the excessive consciousness of the body as the main personality characteristic. Kenyon (1964) found that in the sample of hypochondriacal patients he studied 12.7% of the patients with "primary" hypochondriasis had shown predominantly hypochondriacal personality traits and these had been present in 17% of those with "secondary" hypochondriasis.

The presence of every form of premorbid personality has been described in hypochondriacal patients but the commonest are the anancastic (obsessional) and the hysterical, (Katzenelbogen 1942, Mayer Gross et al 1960), Leonhard 1961, and Fish 1964).

Some workers describe these patients as egocentric or self-centred (Maslow and Mittelman 1951, Rangell 1953) lacking in vitality (Reynell 1928, Khan 1931) anxious, fearful and uncertain (Leonhard 1961, Ladee 1961), "indecisive, inefficient procrastinators who show apparant helplessness" (Busse 1956) and hypersensitive, timid individuals who have tendencies toward "whining, self-pity, rigid mental attitudes and standoffishness" (Richards 1941).

Kenyon (1964) found all forms of premorbid personality in his sample but the commonest were "normal", anxious, obsessional, hypochondriacal and paranoid.

### Hypochondriacal Phenomina occurring as a feature of other Psychiatric Disorders

#### (1) Hypochondriasis and Depressive Illness

The findings of workers in this area demonstrate again the need for more general agreement on the definition of hypochondriasis. The reported incidences of hypochondriasis in depressive illness referred to earlier are a good example of the confusion which exists. These showed figures ranging from 55% (Brown 1936) to 30% (Grinker et al 1961) and in older patients incidences as high as 63.6% (de Alarcon 1964) and 77% (Post 1963) have been found. Kreitman et al (1965) found that the collection of a group of patients suffering from depressive illness

without any somatic complaints "proved to be unexpectedly difficult" and a number of workers have stressed the frequency with which depressed patients may have physical symptoms without objective organic pathology, (Hohman 1940, Ziegler 1928, 1939, Jones and Hall 1963).

Contrasted with this we have the statement by Stenback and Jalava (1961) that "the incidence of hypochondria should be low in manic-depressive psychosis". They come to this rather unusual conclusion as a result of adopting one of Ryle's (1948) forms of nosophobia as their definition of hypochondriasis, viz. "fears connected with a non-existent disease which a patient nevertheless imagines or suspects (usually on the basis of some subjective symptom) that he has already acquired." Since this definition implies the presence of fear or anxiety and "anxiety ... is not included in the depressive affect" these authors consider that hypochondriasis and depression should rarely coexist. To test this they examined the case records of 105 patients with depression and found that hypochondriasis was not present in the 21 patients diagnosed manic-depressive psychosis or "psychopathic depressive reaction".

In addition, Stenback personally examined 12 patients with manic-depressive psychosis and found hypochondriacal symptoms in two.\* The overall incidence of hypochondriasis in patients hospitalised with depression was 18.1% and Stenback therefore concluded that "the incidence of hypochondria is not high in patients with depression". However, in 1964 Stenback and Rimon reported an incidence of 25.8% in depressive

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\* The figure of 10 in the published paper is due to a misprint - (Stenback 1962 - personal communication)

patients admitted to the same hospital. It is, of course, possible that the second sample differed with regard to variables such as sex or age but this is not made clear.

The nature of the hypochondriacal symptoms encountered in depression varies from vague symptoms such as heaviness of the head and vague pains to bizarre ideas of blockage of the bowels, incurable disease and eyes falling out. (Drobnes 1943). Lewis (1934) in describing the hypochondriases in his cases states that there is "a wide range, from fussy, old womanish valetudinarianism to gross and grotesque delusions". He found it difficult to differentiate them according to the accompanying affect or the degree of conviction.

The consistent manner in which depressive illness presents a hypochondriacal picture is shown by the fact that three separate factor analytic studies have identified a factor which has been described as "hypochondriacal" (Grinker et al 1961) "abnormal preoccupation with physical health" (Overall 1962) and "querulous hypochondriacal type" (Cowitz et al 1964).

Kiloh and Garside (1963) carried out a factor analysis to demonstrate the "independence of neurotic and endogenous depression." They found that hypochondriasis was a feature which correlated significantly with the diagnosis of neurotic depression. Unfortunately they do not state their definition of hypochondriasis.

The prognostic significance of hypochondriasis in depression is, from the viewpoint of the clinician, of the greatest interest and in this regard the picture has altered considerably since the advent of

electroconvulsive therapy.

Before this time the presence of hypochondriacal delusions or prominent hypochondriacal ideation was generally regarded as a sinister prognostic omen (Hoch and MacCurdy 1922, Lewis and Hubbard 1931, Strecker et al 1931, Ziegler and Heersema 1943). However, Anderson (1936) cautioned that the degree of absurdity of the hypochondriacal delusions had to be taken into account in deciding their prognostic significance. Ziegler and Heersema (1943), while observing that hypochondriacal symptoms were associated with chronicity of depressive reactions, noted that these patients manifested no suicidal behaviour. Steen (1933) found that patients with hypochondriacal delusions were less likely to recover, but Drobnes (1943) on the other hand found that bizarre hypochondriasis was associated with a good prognosis while milder hypochondriacal complaints meant a poor outcome.

Amongst workers writing since the advent of electroconvulsive therapy and the antidepressant drugs there is general agreement that the presence of non-delusional or "mild" hypochondriasis is prognostically unfavourable (Hobson 1953, Kiloh et al 1962, Nystrom 1964). Both Roth (1959) and Grinker et al (1961) express the opinion that patients with depression and hypochondriasis do not improve but are in fact often worse after treatment.

Two studies of particular interest on the relation of depression to hypochondriasis are those carried out by Giberti (1965) and Kreitman et al (1965). In both cases control groups of patients who had depression without hypochondriasis were used.

Giberti (1965) studied 266 patients with endogenous depression under treatment in the Department of Neurology and Psychiatry of the University of Genoa. He found that amongst those with hypochondriasis there was a higher incidence of male patients, a greater frequency of mild or non-symptomatic organic dysfunction as well as chronic organic disease, more advanced age, a lower incidence of cyclothymic personality traits, a lower "cultural background", a lower incidence of guilt, unworthiness and misery delusions, fewer previous episodes of depression, a poorer responsiveness to "psychotropic" drugs and a greater duration of the current episode.

Kreitman et al (1965) compared 21 patients who were hypochondriacal and depressed, with 21 depressed patients attending a psychiatric clinic who were matched for age and sex and showed no somatic symptoms. They found that the hypochondriacal group showed a greater likelihood of a history of psychosomatic disorders and poorer interpersonal relationships, especially in marriage. In addition, they showed a greater similarity between their pattern of symptoms and those of their mothers' but not of their fathers'; a greater likelihood for the current illness to be precipitated by stressful external events, often relating to death or illness and to fluctuate markedly with environmental change; a much greater chronicity of the present illness; less disruption of social, family and occupational activities, a relative lack of depressive affect despite an equal intensity of depressive mood and less evidence of subjective anxiety.

Kreitman et al (1965) conclude that they are dealing with a group

of patients suffering from an "atypical" depressive illness who might best be compared with subjects suffering from "reactive depression". Their suggestion that the depressive symptoms represent a phase in a chronic hypochondriacal illness is an attractive one in view of the very long histories given by their patients. It must be said that insofar as their patients showed little objective occurrence of depression or anxiety but rather a degree of satisfaction with the hypochondriacal complaints they resemble the concept of hypochondriasis as described by Gillespie (1928).

In summary, it may be said that from the therapeutic point of view interest in recent years has shifted from depressive hypochondriacal delusions to the so-called "milder" forms of hypochondriasis, which are now considered to be a bad prognostic sign. The centuries-old controversy regarding the independence of depression and hypochondriasis continues with workers such as Roth (1958) suggesting that patients with prominent hypochondriacal ideation may in some cases not be suffering from an affective disorder at all, and others such as Kenyon (1965) maintaining that hypochondriasis is almost invariably part of a depressive illness.

#### (ii) Hypochondriasis and Schizophrenia

The fact that hypochondriacal symptoms may be encountered in patients with schizophrenia is well known. F. Brown (1936) found that hypochondriasis in schizophrenia took two forms. The first consists of "bizarre or peculiar complaints" such as "electricity in the genitals, ...

poison gas in stomach, black plague, ... body half a woman, ... not enough blood". The other form comprises "vague complaints" such as "tenseness in neck, ... tired feelings, ... pains in neck and stomach". Katzenelbogen (1942) has emphasised the need to distinguish clearly between these two forms and prefers to describe the bizarre complaints as "somatic delusions".

Hypochondriacal delusions would not appear to be very common in schizophrenic illness. Bowman and Raymond (1931) studied 1,408 subjects and found hypochondriacal delusions in 9% of the males and 6% of the females. Lucas et al (1962) studied 405 schizophrenic subjects and found 59 with hypochondriacal delusions which were defined as "beliefs that parts of the body were changed in some way". This represents 14.6% of the sample - a somewhat higher percentage than that reported by Bowman and Raymond but this might be in part due to the definition employed.

The occurrence of hypochondriacal symptoms in the early stages of a schizophrenia has been pointed out by a number of workers including Brown (1936), Fenichel (1955), Mayer-Gross et al (1960) and Offenkrantz (1962). The latter author declared himself in agreement with E. Bleuler (1924), who stated "we no longer recognize hypochondria as a disease" - considered that "under schizophrenia are included ... nearly all incurable hypochondriacs". He also wrote that he had never seen hypochondriacal delusions in paranoia although they were said to occur in this condition. This observation was given support by the study of Stenback and Rimon (1964) who found that "hypochondriac and paranoic

reactions were rarely present together in the same patient". F. Brown (1936) points out that while "body complaints" are present in the early stage of schizophrenia they disappear when the condition is established. On the basis of this type of observation Cowden and Brown (1956) hypothesized that a physical symptom might act as a defence against psychosis since "the ailment provides a socially acceptable excuse for not achieving financial gain, social independence or marital and familial success... . A hypochondriacal symptom is also a means of maintaining contact with his environment when any real interpersonal relationship is a source of anxiety". To test this hypothesis they chose a subject with paranoid schizophrenia and a high level of anxiety who gave a previous history of a back complaint which did not require any special treatment. The staff then behaved towards the patient as though his back required treatment and constantly drew his attention to it with questions and therapy. The authors report that this regime produced a considerable improvement in the psychotic symptoms. Although this is a most interesting report, it is difficult to draw general conclusions from a single case of this sort. It seems possible that the patient's improvement may have been a result of the increased attention paid to him as much as anything else.

Rotshtein (1962) has described three variants of an entity which he refers to as "hypochondriacal schizophrenia", on the basis of clinical studies on 200 subjects. He refers to the "paranoid variant", the "synaesthesiopathic-hypochondriacal variant" and the "periodic depressive-hypochondriacal" syndrome. The second variant causes the greatest

diagnostic difficulties as schizophrenic symptoms appeared only late in the illness. Of this group about 50% became paranoid hallucinated after varying periods of time. Before this they tended to cope with life in the community for long periods of time - a finding which is in keeping with the observations of Cowden and Brown (1956) described above.

What is perhaps of some practical importance is the fact that the hostility which hypochondriacal patients show towards their doctors may be very much intensified in schizophrenic patients with such complaints. This is suggested by the occasional reports of such patients attacking and even killing their doctors (Cremona 1934, Rocha 1939, Alliez and Savy 1957).

In summary it may be said that all forms of hypochondriacal symptomatology are encountered in schizophrenia, characteristically in the early stages of the illness and these symptoms may be delusional or non-delusional. It has been suggested that the presence of hypochondriacal phenomena of the non-psychotic variety may somehow exert a beneficial effect on the functioning of a schizophrenic patient but this has not been well substantiated. On the whole the relation of hypochondriacal phenomena to schizophrenia is not a subject which has received much attention.

(iii) Hypochondriasis and the Psychoneuroses with particular regard to Nosophobia

The occurrence of hypochondriacal phenomena in association with

other neurotic symptoms is well recognised, but the observations of various authors are not always comparable due to differences in the concepts of hypochondriasis used. F. Brown (1936), for example, reported the presence of hypochondriasis in all his subjects who had been diagnosed as having a psychoneurotic illness but he regarded all "unjustified" bodily complaints as hypochondriacal. Mayer-Gross et al (1960) refer to the frequent combination of hypochondriacal symptoms with those of "an obsessional, hysterical anxiety or depressive nature". They refer to the "anxious worrying ruminations of the obsessional which are not easily relieved by assurances that there is nothing organically wrong". Similarly, Fish (1964) states that obsessional (anankastic) personalities show a form of hypochondriasis which resembles a phobia, "i.e. they are frightened that they might have some terrible illness, although at times they can be reassured and realize that this belief is ridiculous".

In hysterical patients Mayer-Gross et al (1960) describe the occurrence of symptoms representing "the figment of an illness which the patient has already been made familiar with".

In the patient with an anxiety neurosis some writers describe an awareness of the physiological concomitants such as tachycardia and pulmonary dysfunction which may lead to fears concerning heart disease (Mayer-Gross et al 1960, Brown 1936, Guttman and Mayer-Gross 1940). Errera and Coleman (1963) found that phobias and somatic concerns were present as the chief symptoms in 5 of the 19 patients with neurotic phobic disorders whom they studied. In these subjects the commonest

fears were of "illness and death, various types of fears of crowds and crowded places, and fears of leaving the house". These are very similar to those found most common by Paskind (1931) in a study of 352 phobic patients, namely: fear of becoming insane, fear of physical disease and fear of public places.

A number of workers have emphasized the need to separate the fears of illness from the pre-occupation with physical symptoms (Gillespie 1928, Leonhard 1961 and Hunter et al 1964). Hunter et al (1964) believe that "nosophobia" is a more appropriate term than "hypochondriasis" for the type of overconcern with illness encountered in medical students.

"Nosophobia" was the subject of the 21st Maudsley Lecture given by Ryle (1948) in which he describes five types of fears observed in clinical practice. They are: (1) Fears centred on an existing illness; (2) Fears of inheriting disease; (3) Fears of acquiring diseases - particularly infections; (4) "Fears connected with a non-existent disease which a patient nevertheless imagines or suspects (usually on the basis of some subjective symptom) that he has already acquired." and (5) "Fears of death or dying considered as the final malignity of illness and, in the latter case, too widely suspected of involving painful or distressing experience."

Clearly Ryle's fourth type of nosophobia is very close to the generally accepted definition of hypochondriasis and it is in this sense that the term is used by Stenback and Jalava (1961). Ryle believes that disease fears underlie many physical complaints but are not readily voiced by the patient.

No special studies on the influence of hypochondriacal symptoms on the prognosis of psychoneurotic conditions exist, but there seems to be an assumption that anxiety over disease often responds to reassurance (even though temporarily), but somatic concerns do not, and make for a worse prognosis. Stone et al (1961) carried out a five year follow-up study of 30 out-patients diagnosed as having a psychoneurosis or personality disorder. They found that "the least changed symptoms at the five years were somatic ones, and these symptoms were especially characteristic of least improved patients throughout the study. This is in accord with general experience". They ascribe the failure of psychotherapy to help these patients to the fact that they tend to deny the existence of psychological illness and cannot agree with the doctor on the nature of the problem or its treatment. These observations would appear to find support in the report of the Berlin Psychoanalytic Institute for the ten year period from 1920 to 1929. (Knight 1941). Of a total of 1,955 patients accepted for psychoanalysis only 28 were diagnosed as having hypochondriasis. This is not surprising in the light of Schilder's (1938) statement that "it is almost impossible in cases of real hypochondriasis to get any considerable amount of transference. Results are poor in severe chronic cases". These chronic unresponsive cases would seem to fall into the category of "primary hypochondriasis" as described by Gillespie (1928). However, no systematic attempts have been made to differentiate them from those who are anxious about disease and are said to have a better prognosis.

### Aetiological Considerations

In this section the factors which have been considered important in the aetiology of hypochondriacal illness will be reviewed including psychodynamic and psychoanalytic hypotheses which will be considered separately.

Factors operating during childhood have been described by Richards (1941), Brown (1936), Levy (1932), Watters (1938), Apley (1959), Kanner (1946), and Mayer-Gross et al (1960). All these authors stress the role played by exposure to disease and death during childhood and, in particular, the frequency with which hypochondriacal patients are found to have oversolicitous parents who are often themselves hypochondriacal. Richards (1941) also stresses medical mismanagement as a factor; she refers to children who, following an illness or operation, had a convalescence which was delayed "by medical uncertainty, 'go-slow' advice, and staying out of school for weeks and months accompanied by increasing environmental solicitude".

In adults the role of identification with others, has also been described as a factor in the production of hypochondriacal illness. Thus, a patient will develop the fear or conviction of having a disease from which a close relative or neighbour has died or is perhaps still suffering. (Stenback 1960, Primrose 1962, Wahl 1963, Kellner 1963, Parkes 1965).

Another environmental factor which has often been implicated is health propoganda, drug advertisements and books on disease. (Hutchinson 1934, Katzenelbogen 1942, Ryle 1948, Mayer-Gross et al 1960, Kellner 1963).

Most authors feel, however, that only predisposed individuals tended to be affected to any degree by such influences.

### Iatrogenic Factors

Many workers maintain that hypochondriasis may be produced by doctors who are unguarded in their statements to patients and cause health overconcern when no disease is present (Watters 1938, Katzenelbogen 1940, Ryle 1948, Chambers et al 1958, James 1960, Wahl 1962, Mayer-Gross et al 1960, Keyes 1965). With regard to cardiac neurosis however, Hart (1954) points out that although "it has long been assumed that statements or suggestions from the physician himself have frightened patients into a state of chronic anxiety about their health... there is a lack of proof as to what the physician actually said."

In order to investigate iatrogenic factors Wheeler et al (1950) carried out a rather unusual experiment during a community tuberculosis X-ray survey. Heart shadows were noted, and adults showing an abnormality were requested to attend for further examination. They were told that there might be something wrong with their hearts. 117 subjects were studied, of whom 55% had definite organic pathology. 23% of the men and 49.5% of the women reported being upset or frightened by the information given to them and in 20 this took the form of insomnia, anorexia, crying or worrying. Cardiac symptoms appeared or worsened in only ten subjects and of these seven had previously suffered from "neuro-circulatory asthenia". The inference is that, while many people are disturbed by being told of the possibility of heart disease, very few

non-neurotic subjects will develop actual symptoms. This supports the clinical impression that iatrogenic factors are pathogenic only in susceptible individuals.

Ziegler and Heyman (1935) and Ryle (1948) have suggested that hypochondriasis might arise due to ignorance or false concepts of diseases but it is interesting to note that in 1880 Beard specified that the term hypochondriasis should not be applied to "apprehension of disease from ignorance purely".

The role of organic dysfunction in the aetiology of hypochondriasis has been discussed by Gillespie (1928). He points out that throughout the nineteenth century and even in the twentieth century a physical disturbance of some sort was always presupposed and searched for. Since organic disease could not be demonstrated in all cases the concepts of "hypochondria cum materia" and "hypochondria sine materia" arose, with the former being considered more frequent.

The current approach is to focus on the disproportion between the amount of concern shown and the objective evidence of organic disorder which may be either absent or present (Gillespie 1928, Brown 1936, Katzenelbogen 1942, Cameron 1947, Alexander 1949, Laughlin 1956, Kanner 1957, Henderson and Gillespie 1962, Curran and Partridge 1963). When present, organic disease is, according to most workers, usually slight or minimal although it can be severe. If some pathology does exist it may simply serve to determine the part of the body with which the patient becomes preoccupied.

F. Brown (1936) points out that functional disturbances such as

the physiological accompaniments of anxiety and tension might form the basis for hypochondriacal preoccupation and Lewis (1934) takes much the same position with regard to hypochondriasis in depression. Mayer-Gross et al (1960) maintain that in hypochondriasis even normal bodily sensations which are not usually appreciated may reach consciousness and form the object of pre-occupations.

Thus, although clinicians regard the disproportionate preoccupation as the important diagnostic criterion hypochondriasis is usually diagnosed in the absence of any serious organic pathology. This may, however, be due to the fact that patients with serious organic illness and hypochondriasis are less likely to be referred to a psychiatrist.

The role of the "secondary gain" in hypochondriasis has been discussed by clinical psychiatrists (Jahreiss 1930, Gehring 1932, Levy 1932 and Brown 1936). Once established, the patients' symptoms may have the function of helping them to avoid facing difficult or unpleasant tasks, situations and decisions. This "secondary gain" may not be an important factor in producing the illness but may help to perpetuate it without the patient being conscious of it. Bursten and D'Esopo (1965) have described situations in which "the patient and his family are in a stable equilibrium around his sick role" and both "gratify their needs through the 'sickness'". This type of situation is particularly clear when the illness "brings a pension or compensation or when illness removes a patient from a very acute and obvious family crisis". Mayer-Gross et al (1960) consider that hypochondriasis is often a prominent aspect of a compensation neurosis because of the repeated medical examinations

which do not allow the subject to forget his symptoms.

Psychoanalytic studies are of importance from the point of view of aetiology as well as detailed psychodynamics. Macalpine and Hunter (1954) criticise the lack of interest which has been shown by psychoanalysts in hypochondriasis, which they say has "as yet no legitimate place in psychoanalytic theory or practice." The reason for this state of affairs is probably in part due to the unsuitability of these patients for psychoanalytic treatment (Schilder 1938).

Freud (1925) grouped hypochondriasis with neurasthenia and anxiety neurosis as the "actual neuroses" - a concept which has never gained acceptability despite even fairly recent attempts to resurrect it (Blau 1953, Blau and Hulse 1956). Freud seems to have concentrated on the physical complaints encountered in hypochondriasis, which, he writes "like organic disease, manifests itself in distressing and painful bodily sensations". He considered that the organ involved was physically altered by an excess of undischarged libido much as the penis is altered when erect and thus becomes "a source of manifold sensations." Freud felt that he could speculate no further since "it is not within the scope of a purely psychological inquiry to penetrate so far behind the frontiers of physiological research".

Schilder (1930, 1938, 1950), Fenichel (1930, 1955) and Bychowski (1943) agree that hypochondriasis involves an excessive libidinalization of certain organs but see this in terms of a body-image disturbance. Fenichel (1930) postulates that, in hypochondriasis a shift of libido from intrapsychic object representations to organ representations takes

place. The relationship between organ and object representations is regarded as being very close since the ego "is primarily a bodily thing, that is, the perception of one's own body. Thus, the body image is the nucleus of the ego".

Schilder (1938) did not agree with Freud that the libidinization of organs in hypochondriasis was due to current experiences which led to a damming up of libido. "Hypochondriacal pictures based on specific attitudes towards one's own body are quite rarely in connection with one's present situation. They reflect early attitudes ..." To Schilder the regular association with depersonalization indicates the "genesis of the hypochondriacal symptoms from a great amount of interest, especially admiration given by parents to the body and mind of the growing child". Anna Freud (1952) makes the interesting suggestion that the hypochondriacal child might be staging a mother-child relationship in which the child identifies with the mother, while the body represents the child. More recently Macalpine and Hunter (1954) have expressed the view that hypochondriacal somatic symptoms represent the emergence of "archaic pregenital procreation fantasies".

Mental mechanisms involved in hypochondriacal symptoms have been discussed by Alexander (1949) who describes the presence of three major psychodynamic components in the genesis of hypochondriasis:

"(1) A narcissistic withdrawal of interest from objects to self; (2) A need for punishment caused by guilt feelings; (3) A displacement of anxiety." He considers the increased narcissism to be due to frustration of the wish to be loved. This frustration causes hostility

and consequent guilt and the need for suffering so as to assuage the guilt. In addition, the guilt arouses castration anxieties which are displaced on to a less treasured organ.

Alexander and Shapiro (1952) have further stated that a supposedly defective body may serve as a suitable excuse for withdrawing interest from the external world and concentrating entirely on one's own well-being. The suffering involved "allays guilt feelings which a more mature adult feels". They also consider that pre-occupation with a concrete disease symptom serves the same function as any other circumscribed phobia, in that it allows the patient to displace a more intense form of anxiety which has been produced by a forbidden or unacceptable wish or affect.

Some authors have emphasized the fact that hostile and sadistic feelings are discharged in considerable quantities on relatives and physicians by means of persistent complaining behaviour (Dillon 1928, Crider 1946, Pearlman 1952, Fenichel 1955, Quidu and Souris 1963). The communicative function and appeal of physical complaints such as pain is emphasized by Szasa (1957). If the complaint fails to elicit the desired response it comes to symbolize rejection and when repeated serves as a disguised form of aggression.

In summary one may refer to a number of themes discernible in the psychoanalytic writings on hypochondriasis. There is the attempt to explain the physical symptoms in terms of libido theory and their exact localisation in terms of early childhood experiences which enhance the psychic importance of various body parts.

There is also emphasis on a regressive narcissistic withdrawal from outside interests in the face of a frustration of forbidden wishes. The resultant hostility produces guilt (which is assuaged by the experience of suffering) and anxiety which is lessened by displacement on to a disease entity.

The communicative effect of symptoms may also serve as an unconscious motive for assuming the sick role. Hypochondriacal symptoms have also been interpreted as a means of discharging hostility. The main criticism of psychoanalytic theories of hypochondriasis must be the fact that they are based on the study of small numbers of patients and without the use of controls. However, they do provide a useful theoretical framework for considering certain aspects of hypochondriasis.

### Therapeutic Aspects

The treatment and prognosis of hypochondriasis is generally regarded as dependant on whether it is a part of some other syndrome or whether it is occurring on its own. In those cases where it is part of a schizophrenic, depressive or psychoneurotic illness the treatment given is that which is appropriate to the underlying condition (Mayer-Gross et al 1960). The effect which the presence of hypochondriacal phenomena have on the prognosis in these conditions has already been discussed.

Where the illness is regarded as an independant syndrome there does not appear to be any treatment considered specific. Apart from the

symptomatic treatment of any elements of anxiety and depression present with appropriate drugs (Mead 1965) most workers suggest psychotherapy directed towards supporting the patient and helping him to deal with any current problems. There also are frequent exhortations to doctors to gain the patients' confidence by listening patiently to him and investigating his complaints when necessary, coupled with the warning that the patient should not be allowed to occupy too much of the doctor's time nor be overinvestigated or overtreated (Smith 1933, Brown 1936, McGraw and Piotrowski 1941, Alvarez 1944, Ryle 1948, Leonhard 1961, Wahl 1963, Mead 1965).

Leonhard (1961) and Ladee (1961) also suggest the need to "activate" the patient and to encourage him to carry out those physical activities which he thinks he is unable to accomplish. Leonhard (1961) considers this the "first principle" of therapy; his second concerns the fact that "if permitted to do so, hypochondriacs will talk incessantly about their fears and complaints ... these constant discussions must be stopped at all costs".

As has been mentioned previously, electro-convulsive therapy is a treatment which has little effect in these cases (Roth 1959, Grinker et al 1961). Mayer-Gross et al (1960) state that in some cases prefrontal leucotomy may be necessary. Elithorn and Beck (1955) reported the results of a prefrontal leucotomy carried out on a 59 year old female who showed "... a hypochondriasis with hysterical features..." and complained "mainly of terrible head noises, palpitation and a weakness of the legs". The symptoms had an organic basis in part as she suffered

from tinnitus due to middle ear disease. Following the operation she is reported to have said "I have those noises, but I can't be bothered with them". Partridge (1950) in his follow-up study of 300 cases who had been treated with prefrontal leucotomy reported improvement in the seven cases who had shown marked hypochondriasis. Andreev (1960) reported on two subjects treated with prolonged sleep therapy in whom no improvement was observed. These observations are in keeping with the generally held view that the prognosis in "pure" hypochondriasis is poor (Schilder 1938, Alvarez 1941, Maslow and Mittelman 1951, Fenichel 1955, Mayer-Gross et al 1960, Norton 1961). However, the prognosis is reported to be somewhat less unfavourable in younger patients (Richards 1941, Ray and Advani 1962), where the illness is of short duration (Rosenfeld 1958, Ladee 1961, Ray and Advani 1952), and where symptoms of anxiety or depression are present (Fenichel 1955, Rosenfeld 1958, Ladee 1961, Ray and Advani 1962). Relatively better socioeconomic status, extraversion and monosymptomatic hypochondriasis have also been regarded as good prognostic signs (Ray and Advani 1962).

In contrast to those who are pessimistic about the outcome there are workers, such as Leonhard (1961) who seems confident of curing his patients, and Wahl (1963) who, while not promising cures, suggests that these patients can be successfully "managed". In no study have the criteria for assessing clinical outcome been clearly stated and there is no satisfactory study of any large series of patients.

Most opinions on prognosis are based on impressionistic evidence and concepts of hypochondriasis are ill-defined. It seems generally

agreed however that anxiety, depression, youth and a recent onset are features which indicate a good prognosis.

A Critical Review of some Clinical and Psychometric Studies  
of Hypochondriasis

Reference has been made to numerous studies which touched upon hypochondriacal phenomena in a great variety of clinical conditions. The number of systematic investigations specially designed for the study of hypochondriacal phenomena has been small. As these investigations are relevant to the present study, a critical review of them appears desirable. The emphasis in this survey will be on the methodology rather than the results which, in the main, have already been discussed. It is interesting to see how, in these studies, which cover a period of almost 40 years, current psychiatric methods are brought to bear on the problem of hypochondriasis.

In addition, a short review will be undertaken of investigations into hypochondriasis, using psychological techniques such as questionnaires and projective tests.

1. Clinical Studies

Jahreiss (1930), working in the clinic where Kraepelin and his tradition ruled supreme, presents a clinical study of one hundred hypochondriacal patients. The purpose would appear to be a classification of the various types of hypochondriacal ideas and syndromes encountered. Jahreiss found that the abnormal ideas took the forms of delusions, overvalued ideas or anancastic fears. Of the 100

subjects 25 were diagnosed as neurotic, 40 as manic-depressive, 15 as schizophrenic, 4 with general paralysis, 4 as arteriosclerotic, 4 as climacteric depressions, 1 as disseminated sclerosis and 8 showed no underlying condition - suggesting that the occurrence of hypochondriasis as an independent syndrome was accepted. Jahreiss did not set out to test any hypothesis and his study is a good example of a phenomenological or psychopathological investigation of hypochondriacal phenomena such as might be expected from one imbued with the Kraepelinian tradition.

R. D. Gillespie (1928) described 13 cases in some detail so as to substantiate his claim that "hypochondria" should be considered a "disease entity". His criteria for making the diagnosis were "a mental pre-occupation with a real supposititious physical or mental disorder; a discrepancy between the degree of pre-occupation and the grounds for it so that the former is far in excess of what is justified; and an affective condition best characterised as interest with conviction and consequent concern and with indifference to the opinion of the environment including irresponsiveness to persuasion". Although he reports on 13 cases, Gillespie considers only four of them to be examples of the disease entity "hypochondria", and there is room, as Lewis (1934) pointed out, for argument concerning the diagnoses which Gillespie has given even these four subjects. Gillespie cannot be said to have examined the thesis put forward adequately since the description of a case may often lead to unintentional procrustean distortion of material. It may be true that the description of a single case is sufficient evidence that a syndrome exists; but to demonstrate convincingly that

a collection of features have some clinical significance which distinguishes them from other entities, a larger series would be required in order that comparisons might be carried out.

F. Brown (1936), also a Meyerian, studied the case records of 226 patients admitted to the Phipps Clinic of the Johns Hopkins Hospital in Baltimore and also investigated 41 subjects personally. His purpose was to study "psychogenic bodily complaints or hypochondriasis in the various types of psychoneurotic and psychotic patients in which it occurs". Brown defines hypochondriasis as "a physically unjustified or exaggerated body complaint". The 41 cases personally examined by Brown were classified according to the nature of the complaint, the affect and attitude to illness, the psychiatric diagnosis, the mechanism and the aetiology. This produced three main types of hypochondriasis which were: (1) Psychoneurotic hypochondriasis (2) Schizophrenic hypochondriasis and (3) Hypochondriasis associated with an affective disorder - usually depression.

Brown considers that psychoneurotic hypochondriasis occurs when an individual with a "tendency for body complaints" is faced with a difficult situation. He regards this tendency as more likely to be "contagious" than hereditary, and describes it as resulting from over-fussy parents who allow a child to manipulate them by the use of bodily complaints.

In schizophrenic hypochondriasis Brown anticipates the work of Cowden and Brown (1956) when he suggests that the patient's physical complaints can form the basis of rapport.

In depression Brown considers that the prognosis for the hypochondriasis is good if it is consistent with the mood but poor if it is "symbolic" or a psychoneurotic "purposive" hypochondriasis complicating depression.

Brown's paper is mainly descriptive and anecdotal. No comparison group of non-hypochondriacal subjects is used, nor are the hypochondriacal sub-types compared with each other in any systematic manner. While there is very little attempt at quantification of data Brown's study does represent the earliest attempt in the English psychiatric literature to gain some idea of the incidence of hypochondriasis in relation to other psychiatric illnesses.

Another study from the Phipp's Clinic is that of Katzenelbogen (1942), whose purpose is to demonstrate that hypochondriasis is a disease entity. To do so he has, like Brown (1936), examined the case records of the Henry Phipps Clinic but unlike Brown he has not studied any additional cases personally. Having defined hypochondriasis as a "persistent pre-occupation by non-psychotic individuals with their bodily health, either physical or mental, or both, without any apparently reasonable foundation; or excessive pre-occupation with existing physical or mental disorders that is disproportionate to their seriousness", he proceeds to survey data from the case records of 51 patients who fall into this category. He discusses their complaints, personalities and the role of environmental influences. He concludes that hypochondriasis is a nosological entity without defining his criteria for such status.

This is essentially a descriptive study of hypochondriasis. The

lack of quantification and the absence of any control groups make the evaluation of the author's conclusions difficult.

Shirvaikar (1957), working in India and clearly influenced by Anglo-American psychiatry, states that his purpose is to stimulate interest in a condition which is very common in his country, but which has received little attention. His article is based on a study of 100 subjects with hypochondriacal symptoms but it is not made clear whether these patients were personally investigated by the author.

Hypochondriasis is defined as "the presence of symptoms mostly vague but in the nature of unpleasant sensations without proper physical basis and which may or may not be backed by ideas of disease". The incidence of subjects with such symptoms was 22% of those seen in the Goheen Psychiatric Clinic. Shirvaikar discusses the possible origins of hypochondriacal sensations along much the same lines as Brown (1936) and Mayer-Gross et al (1960). Thus he suggests that normal physiological sensations may reach consciousness; or there may be functional disorders of the central nervous system such as suggested by McCulloch (1949) who used phantom limb pain as a model; or the symptoms may arise during an actual disease and persist when the organic process has ended. Shirvaikar found 14 cases who presented "a plain syndrome of hypochondriasis without any signs or symptoms of any other psychiatric disease". He considered this to be "evidence in favour of a separate disorder of hypochondriasis".

The course of the illness was prolonged in most cases and the prognosis was particularly bad in those subjects who focussed attention

on past or present physical illness, in subjects showing a "hysterical element" and those with "essential hypochondriasis".

The results of treatment were good in those showing obsessional or depressive features.

Shirvaikar has not attempted to test a hypothesis and has not used comparison groups. The clinical section is essentially descriptive. In relation to prognosis the criteria for improvement are not stated, nor is the length of follow-up. The interest of this article lies mainly in the similarity of the material encountered in studies carried out in Western settings.

Ray and Advani (1962) surveyed 200 cases of hypochondriasis as part of a larger survey of 2,000 consecutive admissions to the psychiatric clinic of Irwin Hospital in New Delhi. They point out that the "aetiological and clinical details" of hypochondriasis as a psychoneurotic syndrome are ill-defined and their purpose was "to study some of the socio-clinical factors of such cases as they appear in our social context". They define the psychoneurotic disorders to be studied as those in which the symptoms could not be explained by any organic factors; which did not conform to any specific clinical entity and which were refractory. Hypochondriasis seemed commoner amongst married persons and there was a suggestion of a higher incidence in members of the Sikh community. It was commoner amongst persons with an elementary (primary) education and there was "an inverse relationship between the family income and the incidence of hypochondriasis". With regard to occupation the semi-skilled labourers and junior clerical workers were

over-represented amongst the hypochondriacal patients; as were subjects covered by health insurance.

These findings were all based on comparisons between the hypochondriacal and control samples. Percentages rather than actual figures are given and statistical tests of significance are not reported. The authors do not state whether the patients were seen personally nor do they indicate how or by whom the diagnosis was made. In view of this, their observation that no cases of "primary hypochondriasis" were found is difficult to evaluate. Despite the shortcomings mentioned, this study is of interest since it is one of few attempts which have examined some relatively objective data relating to hypochondriasis with the use of a comparison group.

Ladee (1961), working in Amsterdam, takes a phenomenological and existential approach which emphasizes the subjective elements in hypochondriacal phenomena. In defining the condition he rejects any criterion based on the difference between the patient's subjective assessment of his disease and the objective evidence of organic dysfunction. Ladee regards hypochondriasis as a "mode of experience" which "is characterized by a continuous and predominant interest and concern showing as a worrying pre-occupation with the self, generated by an intense and fascinated experience of decay, which has an inescapable tendency to make itself concrete".

He collected 225 subjects between 1949 and 1959 who had been hypochondriacal for at least one month. Only 3 were classified as "primary" hypochondriasis.

Ladee then proceeds to group his patients into a large number of clinical categories and sub-categories, some containing only three or four subjects. These include such entities as "autonomic hyperreactors", "puberty hypochondriasis" and "constitutional nervousness".

In discussing the large group of patients (45% of the whole sample) in whom psychogenic and personality features predominate in the pathogenesis of the hypochondriasis, Ladee rejects the concept of a "specific hypochondriacal constitution" since he finds it impossible to evaluate the role of hereditary factors.

He considers essential hypochondriasis to be a borderline concept consisting of a state of "fully somatised doubt" with minimal anxiety or manifest aggression and virtually no expression of affect.

Electroencephalograms were carried out on 117 subjects, air-encephalograms in 34 subjects and glucose tolerance tests in 78. He was not able to relate any abnormalities detected to the presence of hypochondriasis.

Ladee's study is a thorough and exhaustive one. However, in classifying his cases into so many sub-groups containing small numbers he has made intergroup comparisons difficult. Many of his observations on the predisposing and precipitating factors in hypochondriasis would have been better evaluated if control groups had been used. His decisions as to the categorization of some cases in the essential hypochondriasis group and others amongst the neurotic depressions or even endogenous depressive group often seems quite arbitrary.

Ladee does not explain how he used his rather sophisticated

definition when dealing with patients who were unable to express their subjective experiences easily. The nature of this definition may account for the fact that only 225 out of 9000 cases surveyed fulfilled its criteria and suggests the possibility of a subjective bias in the sampling which may have resulted in the exclusion of cases which other clinicians might regard as hypochondriacal.

Kenyon (1964), working in the Maudsley Hospital, London, has reported a study of the largest series of subjects to date. His purpose was to evaluate some of the hypothesis which have been put forward concerning hypochondriasis and in particular to investigate whether there is sufficient evidence for delineating a group of patients suffering from "primary" hypochondriasis. The sample was gathered by examining the case records of all patients attending the Bethlem Royal and Maudsley Hospitals over the 10-year period 1951-60. The records of all patients in whom a diagnosis of hypochondriasis had been recorded were used for the study. Cases were divided into two categories "according to whether this was the only or primary diagnosis or whether secondary to some other category" and compared on a number of variables.

A detailed comparison of "primary" hypochondriasis and "secondary" hypochondriasis groups revealed that the former had a longer history for the present illness, a less phasic course, a smaller proportion with overt affective features, less electro-convulsive therapy and fewer were regarded as recovered at discharge. At follow up 21% of the primary group had a change of diagnosis. There were no other differences. On the basis of his findings Kenyon concludes that "hypochondriasis

particularly when as rigidly defined as by Gillespie, does not form entity, but is rather part of another syndrome, most commonly an affective one".

There are a number of criticisms to be made of Kenyon's study. Perhaps the most serious is the fact that the cases were not personally studied and the author has consequently had to rely on the diagnoses of others. Kenyon does not offer any definition of hypochondriasis nor does he suggest what definition was being used by the doctors who saw the cases. It would seem quite wrong to assume that all the doctors used the same diagnostic criteria, and certainly wrong to assume that they defined the condition according to the criteria laid down by Gillespie (1928). This is highlighted by the fact that, of the primary hypochondriasis group, only 64.4% were diagnosed as "hypochondriasis only", despite Kenyon's statement that the "primary hypochondriasis group" consisted of those cases where hypochondriasis was the only or primary diagnosis. When considering the associated diagnoses he states "the main object was to establish which was the most frequently associated condition as either the secondary or primary diagnosis with hypochondriasis" without noting that, by definition, no condition could be associated as the primary diagnosis with "primary" hypochondriasis. The finding that anxiety was present in 40.8% and depression in 40.2% of the primary hypochondriasis group is strong evidence that Gillespie's criteria were not used, since he considered the absence of these features essential to the diagnosis of hypochondriasis.

In view of the manner of case selection it is interesting that Kenyon

should have found such striking differences with regard to some clinical features. The fact that patients with "primary hypochondriasis" had a longer history, fewer had a phasic course, less had overt affective features, fewer had E.C.T. and fewer were regarded as recovered at outcome suggest that this group is different from the "secondary hypochondriasis" group - at least with regard to the presence of depression. On the basis of these findings it is difficult to accept Kenyon's conclusion that "hypochondriasis is always part of another syndrome, most commonly an affective one".

His study illustrates the difficulties inherent in a clinical investigation which relies exclusively on case notes and, therefore, on the opinions of clinicians who may not be using the same diagnostic criteria.

## 2. Psychometric Studies

There have been few attempts to study hypochondriasis with the use of psychological techniques such as questionnaires, rating scales and projection tests.

The hypochondriasis scale of the Minnesota Multiphasic Personality Inventory (MMPI) is the only psychological instrument designed specifically to measure hypochondriasis. The MMPI consists of 550 questions and generates a hypochondriasis score as well as scores on nine clinical scales named depression, hysteria, psychopathic deviate, masculinity-femininity, paranoia, psychasthenia, schizophrenia, hypomania and

social introversion. (Hathaway and McKinley 1951). The hypochondriasis scale was developed by the standard method later used for all the other scales. The current version consists of 33 statements relating in the main to bodily symptoms. Examples of these statements are Item 243: "I have few or no pains", Item 163: "I do not tire quickly" and Item 68: "I hardly ever feel pain in the back of my neck". McKinley and Hathaway (1940) concluded from their study of a number of groups of subjects that, while normal and hypochondriacal groups could be separated, an overlap existed between the two groups. The presence of physical disorder did not raise the scores greatly over those of normals and the distribution of scores of psychotic patients was only slightly higher than that of normals. Psychotic subjects were, of course, excluded from the original criterion group.

Although the MMPI is regarded by some workers as an extremely useful clinical tool (Rome 1962, Swenson 1962) others have questioned its value (Benton and Probst 1946, Modlin 1947 and Hunter et al 1947). Contrary to the claims of the original authors Benton and Probst (1946) found a lack of agreement between patients' hypochondriasis scores and the ratings of four psychiatrists in addition to a lack of discrimination between hypochondriacal patients and those with physical disease. It has also been demonstrated that there is considerable overlap between the scales. Wheeler et al (1951) showed that there was a correlation of + 0.73 between the hypochondriasis scale and both the depression and hysteria scales, an interesting finding in view of the long association between these conditions in clinical psychiatry.

Comrey (1957) investigated the internal structure of the hypochondriasis scale by means of factor analysis. Eight factors were identified and were named "Poor physical health, Digestive Difficulties, Bad Eyesight, Lung Damage, Poor Bowel Function, Hypochondriasis, Sinusitis and Hospitalization".

Another factorial study by O'Connor and Stefic (1959) isolated three primary factors which were identified as "Asthenic Reaction", "Vague Somatic Complaints" and "Gastrointestinal Reaction". A second order factor was identified as "Poor Physical Health or Health Concern". The nature of the factors in both studies highlights the factor that the hypochondriasis scale is for the main part a symptom inventory.

Few investigators studying hypochondriasis have used the MMPI hypochondriasis scale as a measuring instrument. Sweetland (1948) attempted to induce depression and hypochondriasis hypnotically so as to determine whether they would develop in "pure culture" in an effort to establish their right to the status of disease entities. It was hypothesized that only the score on the appropriate scale would rise after hypnosis. This, however, did not occur and it was not possible to produce a "pure neurosis". Although the hypochondriasis score did rise it was found that the hysteria and depression scores rose with it - a finding supported by that of Wheeler et al (1951).

Greenfield and Roessler (1958) compared the number of visits to a free medical clinic of a group of university of Wisconsin Students who obtained high scores on the MMPI hypochondriasis scale and a group of students with low scores. There was no significant difference between

the number of clinic visits of the two groups. On the basis of this finding the authors conclude that "a large number of bodily complaints does not, of itself, define a useful syndrome". They applaud, therefore, the dropping of the term hypochondriasis from the nomenclature of the American Psychiatric Association. It would seem that an equally reasonable conclusion would have been that the hypochondriasis scale is a poor instrument for predicting visits to a medical clinic by University of Wisconsin students.

Richardson (1961) investigated whether young college adults were abnormally concerned with their health and whether excessive body interest might result from the presentation of health and disease information through regular classroom teaching. The subjects who completed the hypochondriasis scale of the MMPI before and after a health education course were 171 college students from the Southern Illinois University. The findings were that the group as a whole did not show abnormally high health anxiety and further that hypochondriacal tendencies are not appreciably altered by specific health instruction. It should be noted, however, that although abnormally high scores were never reached, the scores after instruction were significantly higher than those obtained before.

A rather different approach to the measurement of bodily concern has been taken by Secord (1953). He has constructed a word-association test using words which had both bodily and non-bodily meanings. Thus 'colon' might produce the bodily response 'intestine' or the non-bodily response 'comma'. Similarly 'tablet' might evoke the response 'aspirin'

or 'paper'. After an item analysis of 175 words the number was reduced to 75 with 25 neutral words interspersed. The words are read orally at the rate of one every five seconds to subjects who are instructed to write down the first word occurring. The total number of bodily responses constitutes the subjects "bodily score". Correlating the scores on the test with Rorschach responses it was found that high scores tended to show anxiety and low scores showed overcontrol.

Secord and Jourard (1953) have developed a scale for appraising "body cathexis" which they define as "the degree of feeling of satisfaction or dissatisfaction with the various parts or processes of the body". The scale consists of a listing of 46 body parts and functions towards which the subject indicates his positive or negative feelings on a five point scale. A further list of 55 items relating to "various conceptual aspects of the self" comprised the second half of the scale and are rated in the same way. These produced a "self-cathexis" score. These items include "first name", "morals", "manners" and "popularity". There were highly significant correlations between the body-cathexis and the self-cathexis scales. The authors considered this supportive of their hypothesis and "valuation of the body and the self tend to be commensurate". A low body-cathexis was also shown to be associated with bodily concern as measured by the word association test of Secord (1953) described above.

In view of Schilder (1930) and Fenichel's (1930) contention that hypochondriasis is a disturbance of the body-image, the work of Fisher and Cleveland (1958) is extremely interesting. Using Rorschach protocols

they devised a method of evaluating the "body-image boundary" by scoring certain responses. This produces a penetration and a barrier score. The penetration score is believed to reflect "an individual's feeling that his body exterior is of little protective value and could easily be penetrated. The "barrier score" was considered to "tap the boundary dimension at a level of positive assertion of boundary definiteness". Cassel (1964) has shown that in college students individuals with higher barrier scores had a lower "body interior awareness" as measured from their Rorschach responses. It was also found that men had a higher index of body-interior awareness than women.

Fisher (1959) has suggested "that each new fundamentally significant role learned by the individual as he grows up needs to be translated into body terms if it is to become a stable aspect of the personality matrix". Thus, certain areas of the body may have special significance in relation to specific interpersonal situations and may be physiologically more reactive at those times. Certain "body excitation landmarks" may thus have reassurance value and a hypochondriacal complaint concerning a certain part of the body may represent an attempt to "highlight that sector and to magnify whatever sensations emanate from it to restore signal systems reassuring".

On the whole it may be said that psychometric techniques have not made any sizable contribution to the understanding of hypochondriasis. In the case of the MMPI hypochondriasis scale this may have been, at least in part, due to the use of psychiatric diagnoses in the original validation procedure. It has already been shown how variable the

definitions used by clinicians may be.

Chapter II:

THE PRESENT STUDY

## The Present Study

### Introduction

The purpose of this study has been to examine hypochondriacal phenomena from a number of viewpoints. The investigation as a whole may be divided into two main sections.

The first section constitutes a study of hypochondriacal phenomena in 300 consecutive newly referred patients. The purpose of this has been to investigate the incidence of hypochondriacal symptoms in patients referred to the University Department of Psychiatry of the United Sheffield Hospitals and, in addition, to compare patients with and without hypochondriacal symptoms in relation to some other social and clinical variables. For this part of the study all data was obtained from the case-notes although a number of subjects were seen by the author during the course of clinical duties.

The second section of this investigation consists of a personal study of 147 patients with hypochondriacal phenomena presenting as the most prominent feature of their illness. They have been studied with a view to elucidating clinical, aetiological and nosological problems. The nosological issue has been examined by comparing those patients in whom the hypochondriasis was considered "primary" with those in whom it was considered "secondary" to some other condition. The group as a whole has been compared with a personally examined sample of 65 non-hypochondriacal patients. The hypochondriacal patients have been

followed up and grouped according to outcome. The groups so obtained have been contrasted on a number of variables so as to demonstrate those factors which are of prognostic significance.

PART ONE:

A Comparative Study of Newly-Referred Hypochondriacal  
and Non-Hypochondriacal Patients

Methods

a) Case Selection

Advantage was taken of the fact that a research form is filled in with regard to certain features in all new referrals to the out-patient, in-patient and day-patient Departments of the University Department of Psychiatry of the United Sheffield Hospitals. To this research form the item "hypochondriasis" was added. Since these forms are filled in by the doctor who sees the patient initially the definition of hypochondriasis was discussed with all the doctors involved. They were asked to indicate that hypochondriacal features were present if the patient gave evidence of being pre-occupied by thoughts of disease in relation to himself despite having been reassured that medical examination revealed no basis for such concern.

The research forms of 300 consecutive referrals were obtained and these formed the sample analysed.

b) Data Collection

The case notes of the 300 subjects were obtained and from these were extracted information concerning the patient's age, sex, source of referral, number of siblings, marital status and number of children, occupation (in the case of females - husband's occupation), history of previous psychiatric treatment, diagnosis and history of suicidal attempts. The precise criteria employed are described together with

the results.

On the basis of the information on the research forms the patients were separated into those who were hypochondriacal and those who were not and the data extracted from the case notes was grouped accordingly.

### c) Statistical Procedures

Four statistical techniques have been used to test for the significance of differences between groups.

(i) The Chi-square ( $\chi^2$ ) test was used to establish whether statistically significant associations exist between variables. Where the expected frequency in any contingency table cell was smaller than five it was combined with the cell contiguous to it. In the case of 2 x 2 contingency tables Yates' correction for continuity was applied. (Chambers 1958). Findings are reported as significant, if the conventional 5% level of significance is attained, i.e. a less than one in twenty probability of the particular finding having occurred by chance ( $p < 0.05$ ). The degrees of freedom are referred to as "df" and "not statistically significant" as "n.s."

(ii) The difference between two means was considered significant if it was found to be greater than twice its standard error, i.e. the probability that the two means were drawn from the same population was less than one in twenty ( $p < 0.05$ ). For smaller samples Student's "t" test was used (Chambers 1958) and this is indicated.

(iii) In carrying out an item analysis of the Cornell Medical Index Zubin's (1939) nomograms were used to test for the significance of the difference between two percentages.

(iv) The Mann-Whitney U test (Siegel 1956) has been used to compare the means of two distributions where the departure from the Gaussian curve was particularly marked and a non-parametric test seemed appropriate.

In this part of the study the two patient groups are referred to as "new" hypochondriasis and "new" control to distinguish them from the patients who were studied personally by the author and are reported in Part Two.

PART ONE:

Results

1. The Incidence of Hypochondriacal Phenomena

Of the 300 patients, 114 were considered to show hypochondriacal features. This represents an incidence of 38%. In only 8 patients was hypochondriasis the only feature of the illness - an incidence of 2.67%.

2. Sex Ratio

The number of male and female subjects in the new hypochondriasis and new control groups is shown in Table 1.

Table 1 - Sex Distribution

	New Hypochondriasis	New Control	
Male	53 (46.5%)	81 (43.5%)	134
Female	61 (53.5%)	105 (56.5%)	166
Total	114 (100%)	186 (100%)	300

$\chi^2 = 0.14$  1df = n.s.

It can readily be seen that the male:female ratios in the two groups are very similar.

Of the 166 females in the total sample 36.7% were hypochondriacal and of the 134 men 39.6% showed these features.

3. Age

The age (to the nearest year) at the time referral was noted.

The age distributions in the two groups show a marked difference. The average age of the patients in the new hypochondriasis group is 49.96 years (standard deviation = 13.9) while the average age of the new control sample is 36.69 years (standard deviation = 15.5 years). The difference between the means was 3.06 times its standard error and therefore significant beyond the 5% level ( $p < 0.05$ ).

Table 2 shows the distribution of patients by age groups. It can be seen that peak age incidence for new hypochondriacal patients is between 35 and 54 years and it is in this age range that they are over-represented. They are under-represented in the under-24 age group.

Table 2 - Age Distribution

	Age Groupings (Years)						
	0-24	25-34	35-44	45-54	55-64	65+	
New Hypochondriacal	49 (26.3%)	50 (26.9%)	31 (16.7%)	27 (14.5%)	21 (11.3%)	8 (4.3%)	186 (100%)
New Control	10 (8.8%)	25 (21.9%)	30 (26.3%)	30 (26.3%)	14 (12.3%)	5 (4.4%)	114 (100%)
Totals	59	75	61	57	35	13	300

$$\chi^2 = 20.27 \quad 5 \text{ d.f.} \quad p < 0.01$$

When the males and females are compared separately it is seen that the differences between the hypochondriacal and control groups are present in both sexes but attain statistical significance only in the females. The female age distribution is shown in Table 3.

Table 3 - Females: Age Distribution

	Age Groupings						
	0-24	25-34	35-44	45-54	55-64	65+	
New Hypochondriasis	7 (11.5%)	10 (16.4%)	17 (27.9%)	17 (27.9%)	6 (9.8%)	4 (6.6%)	61 (100%)
New Control	32 (30.5%)	29 (27.6%)	16 (15.2%)	13 (12.4%)	11 (10.5%)	4 (3.8%)	105 (100%)
Totals	39	39	33	30	17	8	166

$$\chi^2 = 16.33 \quad 4df \quad p < 0.01$$

The average age of the female new hypochondriasis group was 41.66 years (standard deviation = 14.9) while the average age of the female new control sample was 35.28 years (standard deviation = 15.4). The difference between the means was more than twice its standard error and therefore significant beyond the 5% level.

The male new hypochondriasis group had an average age of 42.3 years (S.D. = 12.6) and the male new control group an average of 38.51 years (S.D. = 15.4). The difference between the means was not twice its standard error, nor did the Chi-Square test reveal a significant difference between the age group frequencies as shown in Table 4.

Table 4 - Males: Age Distribution

	Age Groupings						
	0-24	25-34	35-44	45-54	55-65	65+	
New Hypochondriasis	3 (5.7%)	15 (28.3%)	13 (24.5%)	13 (24.5%)	8 (15.1%)	1 (1.9%)	53 (100%)
New Control	17 (12.3%)	21 (17.4%)	15 (18.5%)	14 (17.3%)	10 (12.3%)	4 (5%)	81 (100%)
Totals	20	36	28	27	18	5	134

$\chi^2 = 6.49$  4df n.s.

Number of Siblings

Only full siblings were taken into account. It can be seen from Table 5 that the hypochondriacal patients tend to have more siblings but this did not reach statistical significance ( $\chi^2 = 9.4$ . 7df n.s.).

Table 5 - Number of Siblings

	0	1	2	3	4	5	6	7+	
New Hypochondriasis	15 (13.2%)	13 (11.4%)	21 (18.4%)	15 (13.2%)	16 (14%)	15 (13.2%)	8 (7%)	11 (9.6%)	114 (100%)
New Control	32 (17.2%)	33 (17.7%)	33 (17.7%)	27 (14.5%)	26 (14%)	9 (4.8%)	13 (7%)	13 (7%)	186 (100%)
Totals	47	46	54	42	42	24	21	24	300

The tendency to have larger sibships was present in both the male and female hypochondriacal subjects but in neither case was this statistically significant. The findings are shown in Tables 6 and 7.

Table 6 - Females: Number of Siblings

	Number of Siblings						
	0	1	2	3	4	5+	
New Hypochondriasis	7 (11.5%)	9 (14.8%)	11 (18%)	9 (14.8%)	8 (13.1%)	17 (27.9%)	61
New Control	18 (17.1%)	19 (18.1%)	21 (20%)	12 (11.4%)	17 (16.2%)	18 (17.1%)	105
Totals	25	28	32	21	25	35	166

$$\chi^2 = 3.84 \quad 5 \text{ df} \quad \text{n.s.}$$

Table 7 - Number of Siblings: Males

	Number of Siblings						
	0	1	2	3	4	5+	
New Hypochondriasis	8 (15.1%)	4 (7.5%)	10 (18.9%)	6 (11.3%)	8 (15.1%)	17 (32.1%)	53
New Control	14 (17.3%)	14 (17.3%)	12 (14.8%)	15 (18.5%)	9 (11.1%)	17 (21%)	81
Totals	22	18	22	21	17	34	134

$$\chi^2 = 5.7 \quad 5 \text{ df} \quad \text{n.s.}$$

Civil State

The differences in the numbers married in the two groups reflect the age differences. For purpose of comparison patients who were separated, divorced or widowed were included with the married group. Among the non-hypochondriacal patients there was one who was separated, two who were divorced and four whose spouse had died. Of the hypochondriacal subjects four had lost a spouse and one was separated.

Table 8 shows the numbers of married and single subjects in each group.

Table 8 - Civil State

	New Hypochondriasis	New Control	
Married	99 (86.8%)	128 (68.8%)	227
Single	15 (13.2%)	58 (31.2%)	73
	114 (100%)	186 (100%)	300

$$\chi^2 = 11.51, 1 \text{ df}, p < 0.001$$

It can be seen that a much higher proportion of the hypochondriacal patients tend to be married. The difference is statistically significant. Although this difference is present in both males and females it attains statistical significance only in the case of the females. The actual proportions are shown in Table 9.

Table 9 - Civil State by Sex

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Married	55 (90.2%)	71 (67.6%)	44 (83.0%)	57 (70.4%)	227
Single	6 (9.8%)	34 (32.4%)	9 (17%)	24 (29.6%)	73
Totals	61 (100%)	105 (100%)	53 (100%)	81 (100%)	300

$$\chi^2 = 9.53 \quad 1 \text{ df} \quad p < 0.01$$

$$\chi^2 = 2.12 \quad 1 \text{ df} \quad \text{n.s.}$$

Social Class

The Hall-Jones (1950) social grading of occupations was employed as a measure of social class. The classification thus arrived at is as follows:-

1. Professional and High Administrative, e.g. architect, surgeon, bank manager
2. Managerial and Executive, e.g. headmaster, personnel manager
3. Inspectional and Supervisory and other non-manual higher grade, e.g. police inspector, assistant teacher (elementary school)
4. Inspectional, Supervisory and other non-manual lower grade, e.g. insurance agent (industrial), costing clerk
5. Skilled manual and routine grades of non-manual, e.g. carpenter, compositor, shop assistant (drapery)
6. Semi-skilled manual, e.g. sheet metal worker, assembler, butcher's assistant
7. Unskilled manual, e.g. builder's labourer, porter

As the numbers in the upper four (mainly "white collar") classes tended to be small, these were grouped into two classes. The class distributions of the two patient groups is shown in Table 10.

Table 10 - Social Class

	1 + 2	3 + 4	5	6	7	
New Hypochondriacal	3 (2.6%)	12 (10.5%)	30 (26.3%)	44 (38.6%)	25 (21.9%)	114 (100%)
New Control	4 (2.2%)	31 (16.7%)	57 (30.6%)	79 (42.5%)	15 (8.1%)	186 (100%)
Totals	7	43	87	123	40	300

$\chi^2 = 12.27$  3 df  $P < 0.01$

There is a statistically significant difference in the social class distributions of the two groups. The hypochondriacal patients are under-represented in the higher social classes (3 and 4) and over-represented in the unskilled manual occupations (class 7).

An examination of the figures for the female patients shown in Table 11 shows the same pattern and the differences attain statistical significance, ( $\chi^2 = 8.82$  3 df  $p < 0.05$ ).

Table 11 - Females: Social Class

	Social Class					
	1 + 2	3 + 4	5	6	7	
New Hypochondriasis	1 (1.6%)	5 (8.2%)	16 (26.2%)	27 (42.6%)	12 (19.7%)	61
New Control	3 (2.9%)	19 (18.1%)	32 (30.5%)	44 (41.9%)	7 (6.7%)	105
Totals	4	24	48	71	19	166

$$\chi^2 = 8.82 \quad 3 \text{ df} \quad p < 0.05$$

In the case of the male subjects, there is also a preponderance of hypochondriacal patients in unskilled occupations but there are no striking differences in the other social classes. The findings are shown in Table 12.

Table 12 - Males: Social Class

	Social Class					
	1 + 2	3 + 4	5	6	7	
New Hypochondriasis	2 (3.8%)	7 (13.2%)	14 (26.4%)	17 (32.1%)	13 (24.5%)	53
New Control	1 (1.2%)	12 (14.8%)	25 (30.9%)	35 (43.2%)	8 (9.9%)	81
Totals	3	19	39	52	21	134

$$\chi^2 = 5.65 \quad 3 \text{ df} \quad p < 0.05$$

Size of Family

Only living childred were taken into account in recording the size of the patient's family. Hypochondriacal patients tended to have larger families but this finding did not reach statistical significance.

The figures are shown in Table 13.

Table 13 - Size of Family

	Number of Childred (Married subjects only)					
	0	1	2	3	4+	
New Hypochondriasis	19 (17.3%)	23 (20.9%)	36 (32.7%)	14 (12.7%)	18 (16.4%)	110 (100%)
New Control	36 (26.9%)	30 (22.4%)	38 (28.4%)	16 (11.9%)	14 (10.4%)	134 (100%)
Totals	55 (22.5%)	53 (21.7%)	74 (30.2%)	30 (12.3%)	32 (13.1%)	244 (100%)

$$\chi^2 = 4.55 \quad 4 \text{ df} \quad \text{n.s.}$$

This tendency for hypochondriacal patients to have larger families was statistically significant in the female subjects as shown in Table 14.

Table 14 - Females: Number of Children (Married subjects only)

	Number of Children					
	0	1	2	3	4+	
New Hypochondriasis	5 (9.1%)	15 (27.3%)	14 (25.5%)	12 (21.8%)	9 (16.4%)	55 (100%)
New Control	22 (28.2%)	13 (16.7%)	26 (33.3%)	10 (12.8%)	7 (9%)	78 (100%)
Totals	27	28	40	22	16	133

$$\chi^2 = 11.24 \quad 4 \text{ df} \quad p < 0.05$$

The male subjects show a similar trend (Table 15) but it does not attain statistical significance.

Table 15 - Males: Number of Children (Married Subjects only)

	Number of Children					
	0	1	2	3	4+	
New Hypochondriasis	14 (31%)	8 (17.8%)	12 (26.7%)	2 (4.4%)	9 (20%)	45
New Control	14 (25%)	17 (30.4%)	12 (21.4%)	6 (10.7%)	7 (12.5%)	56
Totals	28	25	24	8	16	101

$$\chi^2 = 2.24 \quad 3 \text{ df} \quad \text{n.s.}$$

Mode of Referral

Patients are classified according to whether they had been referred from their own general practitioner or from some other hospital department. Table 16 shows the numbers in each group. It can readily be seen that there are no marked differences and this is also the case when the figures for each sex are taken separately.

Table 16 - Source of Referral

	Female		Male		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Referred by G.P.	42 (68.9%)	64 (6.1%)	41 (77.4%)	55 (67.9%)	202
Referred from other hospital department	19 (31.1%)	41 (39%)	12 (22.6%)	26 (32.1%)	98
Totals	61	105	53	81	300

$\chi^2 = 0.73$  1 df n.s.     $\chi^2 = 0.98$  1 df n.s.

Diagnosis

The diagnoses used for this study were those made by the consultant to whom the case had been referred. These were written in the space specifically provided on the front sheet of the notes.

Definitions

"Endogenous depression" was diagnosed in patients showing a marked and continuous mood of depression which showed a diurnal variation, being worse in the morning and tending to improve towards evening and such symptoms as early-morning waking, constipation, loss of appetite and loss of libido, difficulties of concentration, retardation and loss of interest in activities previously enjoyed, a self-reproachful and self-depreciatory attitude as well as a pessimistic outlook.

"Neurotic depression" was diagnosed when the mood was depressed but showed no diurnal variation and lifted in response to changes in the social environment. The depression tended to vary from day to day.

There was difficulty in falling asleep and no early waking. The appetite was not markedly altered and weight loss was not a prominent feature. There was often a precipitating stress in the history. The other features of endogenous depression described above were largely absent.

The category of "reactive depression with suicidal attempts" may be considered a variety of "Neurotic depression". These patients have been classified separately because they seem to constitute a special presenting syndrome. They could also be described as "situational reactions". These were patients who had made a suicidal attempt in response to a specific stress and were referred to the Department of Psychiatry after any necessary resuscitatory measures had been taken. In most cases there was no other circumscribed psychiatric syndrome present apart from a short-lived depression following a stressful experience.

"Anxiety Hysteria" was diagnosed in patients showing features of anxiety such as tension, palpitations and specific fears, together with conversion symptoms such as globus hystericus or hysterical personality features such as attention-seeking, histrionic behaviour. The diagnosis of "anxiety hysteria" itself was made in many cases but such diagnoses as "anxiety neurosis with hysterical features" or "phobic anxiety in a hysterical personality" were also included in this category.

"Sexual disorders" included such deviations as homosexuality, exhibitionism, transvestism and voyeurism. Many of these cases had been placed on probation by the courts and attendance at a psychiatric clinic was one of the conditions of their probation. A few cases of impotence

were included in this group. Thus the patients in the group were complaining primarily of psychosexual disorders.

Schizophrenia was diagnosed according to the criteria of E. Bleuler (1955) with special weight being given to the presence of primary delusions, passivity experiences, delusional perceptions and misinterpretations, formal thought disorder and thought blocking. Auditory hallucinations were considered strongly supportive of the diagnosis if the voices commented on the patient's behaviour or gave him orders. In addition, evidence of affective inappropriateness, poor rapport and psychomotor abnormalities such as stereotypies and mannerisms were sought.

"Organic states" refer to patients with conditions such as senile and presenile dementia, cerebral arteriosclerosis, epilepsy and toxic confusional states.

"Personality disorder" was diagnosed in those who showed long standing persistent abnormal reaction patterns which did not amount to a circumscribed psychiatric syndrome. This included patients who showed persistently aggressive, hysterical, paranoid or obsessional personality traits.

"Alcoholism" was the diagnosis when the patient's dependence on alcohol was impairing his physical, social or psychological functioning.

"Subnormality" was the diagnosis in only one case who showed an intelligence which was well below average.

"Obsessional Neurosis" was diagnosed in subjects whose symptoms were of an obsessive-compulsive nature and were not secondary to a depressive illness. Such symptoms took the form of thoughts, impulses,

feelings or actions which the patient regarded as foreign to himself and yet as contents of his own consciousness. They appeared with a feeling of tremendous compulsion and were resisted by the patients.

"Hypochondriasis" was diagnosed where the only abnormality shown by the patient was a persistent preoccupation with his own health and the presence of disease and/or dysfunction despite evidence of reassurance having been given after thorough investigation revealed no organic pathology which could adequately justify the patient's concern. In all cases there was no or very minor organic pathology present.

"Anorexia Nervosa" was diagnosed in a patient who showed an active and positive aversion to and avoidance of food with marked weight loss and amenorrhoea.

The "new" hypochondriacal and control groups were compared with regard to all the above diagnostic categories. The detailed findings are given separately for each diagnosis.

"Endogenous depression" was the diagnosis in 28.9% of the new hypochondriasis sample and 18.8% of the new control group. The actual figures are given in Table 17.

Table 17 - "Endogenous depression"

	New Hypochondriasis	New Control	
"Endogenous depression"	33 (28.9%)	35 (18.8%)	68 (22.7%)
Other	81 (71.1%)	151 (81.2%)	232 (77.3%)
Totals	114 (100%)	186 (100%)	300 (100%)

$$\chi^2 = 3.56 \quad 1 \text{ df} \quad \text{n.s.}$$

Although the percentage of patients diagnosed as "endogenous depression" is appreciably higher than in the non-hypochondriacal group this approaches but does not reach statistical significance.

The figures for male and female patients taken separately show that the difference is more marked and statistically significant in the males, and the females do not differ strikingly with regard to the diagnosis of endogenous depression (Table 18).

Table 18 - Endogenous Depression by Sex

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Endogenous depression	18 (29.5%)	25 (23.8%)	15 (28.3%)	81 (12.3%)	68 (27.7%)
Other	43 (70.5%)	80 (76.2%)	38 (71.7%)	71 (87.7%)	232 (77.7%)
Totals	61 (100%)	105 (100%)	53 (100%)	81 (100%)	300 (100%)

$$\chi^2 = 0.39 \quad 1 \text{ df} \quad \text{n.s.} \quad \chi^2 = 5.46 \quad 1 \text{ df} \quad p < 0.02$$

Neurotic depression was the diagnosis in 14.9% of the hypochondriacal subjects and 18.9% of the control subjects - clearly a very similar incidence. Neither the overall differences shown in Table 19 nor the differences within each sex (Table 20) were statistically significant.

Table 19 - Neurotic Depression

	New Hypochondriasis	New Control	
Neurotic depression	17 (14.9%)	35 (18.8%)	52 (17.3%)
Other	97 (85.1%)	151 (81.2%)	248 (100%)
Totals	114 (100%)	186 (100%)	300 (100%)

$$\chi^2 = 0.5 \quad 1 \text{ df} \quad \text{n.s.}$$

Table 20 - Neurotic Depression (by sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Neurotic depression	11 (18%)	21 (20%)	6 (11.3%)	14 (17.3%)	52 (17.3%)
Other	50 (82%)	84 (80%)	47 (88.7%)	67 (82.7%)	248 (82.7%)
Totals	61	105	53	81	300

$$\chi^2 = 0.01 \quad 1 \text{ df} \quad \text{n.s.} \quad \chi^2 = 0.49 \quad 1 \text{ df} \quad \text{n.s.}$$

Reactive depression associated with a suicidal attempt was encountered far more frequently in the non-hypochondriacal group and, in particular, in the females. Of the hypochondriacal patients only one patient (0.9%) was given this diagnosis, while 14.5% of the control group fell in this category. This difference was highly significant. The figures are shown in Table 21.

Table 21 - Reactive Depression with Suicidal Attempt

	New Hypochondriacal	New Control	
Reactive depression/ Suicidal attempt	1 (.9%)	27 (14.5%)	28 (9.3%)
Other	113 (99.1%)	159 (85.5%)	272 (90.7%)
Totals	114 (100%)	186 (100%)	300

$$\chi^2 = 13.97 \quad 1 \text{ df} \quad p < 0.001$$

As previously mentioned the diagnosis of Reactive depression with suicidal attempt was uncommon in male patients. In fact, no hypochondriacal male presented in this way while only six of the non-hypochondriacal subjects did so. The numbers are too small for statistical comparison. In females, however, the trend is much more marked and the differences highly significant. The figures for males and females are shown in Table 22.

Table 22 - Reactive Depression with Suicidal Attempt (by sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Reactive Depression/ Suicidal Attempt	1 (1.6%)	21 (20%)	0	6 (7.4%)	28
Other	60 (98.4%)	84 (80%)	53 (100%)	75 (92.6%)	272
Totals	61	105	53	81	300

$$\chi^2 = 9.77 \quad 1 \text{ df} \quad p < 0.01 \quad \chi^2 = 2.56 \quad 1 \text{ df} \quad n.s.$$

The incidence of suicidal attempts was also examined, regardless of whether they were related to the clinical presentation. Thus, any history of a suicidal attempt made by the patient was noted and patients were categorized according to those giving such a history and those who did not. Not surprisingly, the findings which emerged were similar to those obtained for patients presenting following a suicidal attempt. The significant findings were also the same (Tables 23 and 24).

Table 23 - History of Suicidal Attempt

	New Hypochondriasis	New Control	
History of Suicidal Attempt	11 (9.6%)	49 (26.3%)	60 (20%)
No history of Suicidal Attempt	103 (90.4%)	137 (73.7%)	240 (80%)
Totals	114 (100%)	186 (100%)	300

$\chi^2 = 11.29$  1 df  $p < 0.001$

Table 24 - History of Suicidal Attempt (by Sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
History of Suicidal Attempt	7 (11.5%)	32 (30.5%)	4 (7.5%)	17 (21%)	60
No History of Suicidal Attempt	54 (88.5%)	73 (69.5%)	49 (92.5%)	64 (79%)	240
Totals	61	105	53	81	300

$\chi^2 = 6.73$  1 df  $p < 0.01$        $\chi^2 = 3.4$  1 df n.s.

In view of the known relationship between attempted suicide, female sex and a younger age (Stengel 1958), it seemed desirable to compare the two groups after excluding subjects under 24 years of age, since, as previously shown, there was a preponderance of non-hypochondriacal patients in this age group. When the frequencies thus obtained were compared the trends were similar to those previously found but no statistically significant differences were found. The figures are shown in Tables 25 and 26.

Table 25 - History of Suicidal Attempts in Patients Over 24 Years of Age

	New Hypochondriasis	New Control	
History of Suicidal Attempt	9 (8.7%)	25 (18.4%)	34
No History of Suicidal Attempt	95 (91.3%)	111	206
Totals	104 (100%)	136 (100%)	240

$$\chi^2 = 3.82 \quad 1 \text{ df} \quad \text{n.s.}$$

Table 26 - History of Suicidal Attempts in Patients over 24 Years of Age  
(by Sex)

	Females		Males		
	New Hypochondriacal	New Control	New Hypochondriacal	New Control	
History of Suicidal Attempt	5 (9.3%)	15 (20.8%)	4 (8%)	10 (15.6%)	34
No History of Suicidal Attempt	49 (90.7%)	57 (79.2%)	46 (92%)	54 (84.4%)	206
Totals	54 (100%)	72 (100%)	50 (100%)	64 (100%)	240

$\chi^2 = 2.3$  1 df n.s.     $\chi^2 = 0.89$  1 df n.s.

"Anxiety Hysteria" was diagnosed in 35.1% of the hypochondriacal and only 17.7% of the non-hypochondriacal subjects. Table 27 shows the relevant figures; the differences are statistically significant.

Table 27 - "Anxiety Hysteria"

	New Hypochondriasis	New Control	
Anxiety Hysteria	40 (35.1%)	31 (16.7%)	71 (23.7%)
Other	74 (64.9%)	155 (83.3%)	229 (76.3%)
Totals	114	186	300 (100%)

$\chi^2 = 12.28$  1 df  $p < 0.01$

Although the trend towards an increased incidence of patients diagnosed as "Anxiety Hysteria" in the hypochondriacal group was present in the males and females it attained statistical significance only in

the case of the females (Table 28).

Table 28 - "Anxiety Hysteria" (by Sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Anxiety/Hysteria	24 (39.3%)	19 (18.1%)	16 (30.2%)	12 (14.8%)	71
Other	37 (60.7%)	86 (81.9%)	37 (69.8%)	69 (85.2%)	229
Totals	61 (100%)	105	53	81	300

$$\chi^2 = 8.0 \quad 1 \text{ df} \quad p < 0.01 \quad \chi^2 = 3.7 \quad 1 \text{ df} \quad \text{n.s.}$$

Sexual Disorders were extremely uncommon among patients presenting with hypochondriacal phenomena. There was only one case - a male homosexual who was concerned about the possibility of renal or bowel disease and preoccupied by the belief that he gave off an offensive odour. Psychosexual disorders were diagnosed in 7% of the non-hypochondriacal patients. These were all males. Since no females were given this diagnosis, only the male groups have been compared. (Table 29). The difference is significant.

Table 29 - "Sexual Disorders" (Males)

	New Hypochondriasis	New Control	
"Sexual Disorders"	1 (1.9%)	13 (16%)	14
Others	52 (98.1%)	68 (84%)	120
Totals	53	81	134

$$\chi^2 = 5.43 \quad 1 \text{ df} \quad p < 0.02$$

The incidence of schizophrenia did not differ markedly in the two groups of patients. The numbers (Table 30) are too small for tests of statistical significance to be carried out.

Table 30 - Schizophrenia (by Sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Schizophrenia	2 (3.3%)	3 (2.9%)	3 (5.7%)	4 (4.9%)	12 (4%)
Other	59 (96.7%)	102 (97.1%)	50 (94.3%)	77 (95.1%)	288 (96%)
Totals	61	105	53	81	300

"Organic states" were diagnosed in 3.9% of the hypochondriacal and 5.4% of the non-hypochondriacal patients. The figures are set out in Table 31. There was no statistically significant difference.

Table 31 - "Organic States"

	New Hypochondriasis	New Control	
Organic States	4 (3.5%)	10 (5.4%)	14 (4.7%)
Other	110 (96.5%)	176 (94.6%)	286 (95.3%)
Totals	114 (100%)	186 (100%)	300

$$\chi^2 = 0.24 \quad 1 \text{ df} \quad \text{n.s.}$$

The tendency for a slightly higher percentage of non-hypochondriacal patients to be diagnosed as having an "organic state" was present in both the males and the females, but this was not marked and the numbers

are too small for tests of statistical significance. (Table 32)

Table 32 - "Organic States" (by Sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
Organic States	2 (3.3%)	5 (4.8%)	2 (3.8%)	5 (6.2%)	14
Other	59 (96.7%)	100 (95.2%)	51 (96.2%)	76 (93.8%)	
Totals	61	105	53	81	300

A diagnosis of "Personality Disorder" was made in 2.6% of the hypochondriacal and 7.5% of the control subjects. The difference was not significant (Table 33).

Table 33 - Personality Disorders

	New Hypochondriasis	New Control	
Personality Disorder	3 (2.6%)	14 (7.5%)	17 (5.7%)
Other	111 (97.4%)	172 (92.5%)	283 (94.3%)
Totals	114 (100%)	186 (100%)	300 (100%)

$$\chi^2 = 2.32 \quad 1 \text{ df} \quad \text{n.s.}$$

The same trends are present when the male and female figures are taken separately (Table 34) but the small numbers do not allow ~~the~~ test of statistical significance to be carried out.

Table 34 - Personality Disorders in Male and Female Hypochondriacal and Control Groups

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
	Personality Disorder	1 (1.6%)	6 (5.7%)	2 (3.8%)	
Others	60 (98.4%)	99 (94.3%)	51 (96.2%)	73 (90.1%)	283 (94.3%)
Totals	61 (100%)	105 (100%)	53 (100%)	81 (100%)	300 (100%)

Alcoholism was present only in one male hypochondriacal patient.

Of the non-hypochondriacal patients, six males and two females were given this diagnosis (Table 35).

Table 35 - Alcoholism (by Sex)

	Females		Males		
	New Hypochondriasis	New Control	New Hypochondriasis	New Control	
	Alcoholism	0 (0.0%)	2 (1.9%)	1 (1.9%)	
Other	61 (100%)	103 (98.1%)	52 (98.1%)	75 (92.6%)	291 (97%)
Totals	61	105	53	81	300

Numbers too small for test of significance

An obsessional neurosis was diagnosed in one female hypochondriacal patient and two female controls.

Subnormality was present in only one male control patient and anorexia nervosa was diagnosed in one female control subject.

Of the hypochondriacal patients eight (7%) were diagnosed as

"hypochondriasis" only. Of these seven were males and one a female subject. These patients formed 2.67% of the total sample of 300 patients.

Family History of Psychiatric Illness

Only a history of a parent or sibling having had psychiatric treatment was taken as evidence of a family history of psychiatric illness. With regard to this variable there was no significant difference between the two groups ( $\chi^2 = 0.08$ , 1 degree of freedom,  $p > 0.05$ ). The actual numbers are shown in Table 36.

Table 36 - Family History of Psychiatric Illness (by Sex)

	Females		Males		
	New Hypochondriacal	New Control	New Hypochondriacal	New Control	
Family History of Psychiatric Illness	9 (14.8%)	16 (15.2%)	6 (11.3%)	12 (14.8%)	43 (14.3%)
No Family History of Psychiatric Illness	52 (85.2%)	89 (84.8%)	47 (88.7%)	69 (85.2%)	257 (85.7%)
Totals	61	105	53	81	300

Numbers too small for test of significance

PART ONE: Summary of Findings in The New Patient Study.

A. Statistically Significant Differences with Sexes combined

- (a) Hypochondriacal patients were elder than the non-hypochondriacal patients.
- (b) Hypochondriacal patients were more likely to be married.
- (c) Hypochondriacal patients were over-represented in the unskilled manual occupations.
- (d) Hypochondriacal patients were less likely to present following a suicidal attempt related to a reactive depression.
- (e) Hypochondriacal patients were less likely to have made a suicidal attempt at any time in the past. (This finding was not significant if patients under 24 years of age were excluded)
- (f) "Anxiety/Hysteria" was more commonly diagnosed in hypochondriacal subjects.

B. Differences Significant Between Female Subjects but not Between Males

- (a) Hypochondriacal females are elder than female controls.
- (b) Hypochondriacal females are more likely to be married than female controls.
- (c) Hypochondriacal females are more likely to be graded in the lowest social class.
- (d) Hypochondriacal females have more children than female controls.
- (e) Hypochondriacal females are less likely to be diagnosed

"Reactive depression with suicidal attempt" than female controls.

(f) Hypochondriacal females are less likely to give a history of a suicidal attempt than female controls.

(g) Hypochondriacal females are more often diagnosed "Anxiety/Hysteria" than control females.

C. Differences Significant Between Male Subjects but not Between Females

(a) Hypochondriacal male patients are diagnosed as endogenous depression more often than male controls.

(b) "Sexual disorders" are less common in hypochondriacal males than in male controls.

PART TWO:

A Personal Study of 147 Hypochondriacal Subjects and 65 Controls

1. Methods and Criteria

This section reports on 147 hypochondriacal patients who were studied and in most cases treated by the author. In addition, a group of 65 non-hypochondriacal patients has been investigated for comparative purposes. These were also studied personally.

Patients were collected from July 1961 until June 1963, at which time the author took up a post in another hospital. While collecting the sample the author held the posts of registrar, research fellow and temporary lecturer in the Professorial Department of Psychiatry of the United Sheffield Hospitals.

The Hypochondriacal Patients: Criteria for Case Selection

Hypochondriasis is defined as a concern with health or disease in oneself which is present for the major part of the time. The pre-occupation must be unjustified by the amount of objective organic pathology present and must not respond more than temporarily to clear reassurance given after a thorough examination of the patient.

The patients included were either seen during the course of routine clinical duties or were referred by colleagues. All patients were given a full psychiatric and physical examination. If any special investigations seemed to be indicated these were carried out. When all the

required information was to hand and it was felt by the author that the patient's concern over his health was unjustified, a clear explanation of the situation was given and this was followed by reassurance.

Patients who were unable to accept this and continued to express concern were included in the sample. Patients who were reassured for a few hours or days but returned with same concerns at their next appointment were also included.

#### The Non-Hypochondriacal Patients: Criteria for Case Selection

The comparison sample of 65 non-hypochondriacal patients were collected in the same way as the hypochondriacal patients. The main criterion was an absence of any hypochondriacal phenomena as described above. The patients were drawn from the same sources as the hypochondriacal patients, i.e. from the in-patient unit, the day hospital, the out-patient and new patient clinics.

#### Data Collection

A standard psychiatric history was taken from each patient according to a schema which emphasised certain items, considered to be particularly relevant to the problem of hypochondriasis. The specific items sought included sex, age on referral (to the nearest year), civil state (whether single, married, widowed, divorced or separated), and social class. The Hall-Jones' (1950) social grading of occupations was used as has been described in part one.

### Family History

Information was sought concerning parents or siblings who had received psychiatric treatment or had suffered any other serious illnesses. These were defined as illnesses which resulted in periods longer than four weeks away from normal activities or stays in hospital of longer than three weeks.

Patients were asked whether their parents had been overconcerned with health in any way. If a parent had died, the patient's age at the time was obtained.

### Personal History

The number of siblings recorded took only full siblings into account.

"Childhood stress" was considered to have been present if a parent had been lost due to death or separation before the age of 16 years, if there had been extreme poverty, open dissension between parents (with verbal or physical violence) or alcoholism in a parent.

The patient was asked whether he had been considered a "delicate" child and whether he had been "coddled" and over-protected by his parents. Details were obtained of hospital admissions and a history of all illnesses experienced.

### Occupational and Marital History

The jobs held by the patient were listed, including the time spent in each and the reasons for leaving. The occupational history was

considered unstable if the patient had held many jobs for short periods of time (usually under a year) and had left them for no specific or clear reason.

The patient's age at marriage was obtained as well as the age of the spouse. The number of living children was recorded.

Evidence of marital disharmony was sought, such as frequent quarrels or fights, a marked feeling of dissatisfaction with the spouse and a history of separations.

Psychosexual difficulties such as frigidity or impotence were recorded in addition to sexual deviations such as homosexuality and exhibitionism.

#### History of Present Illness

A full chronological history of the patient's illness was obtained. The patient's somatic complaints were classified both according to the region of the body involved and the system (e.g. cardiovascular, musculo-skeletal).

Somatic complaints were also classified as to whether they were present all the time or whether there were periods of relief. At later interviews patients were categorized as to whether they were completely inaccessible to reassurance or whether they responded for a short time.

Evidence was sought of symptoms such as phobias, obsessions, hysterical symptoms, depersonalization, hallucinations and delusions.

Females were questioned concerning dysmenorrhoea. The amount of pain present was graded as mild, moderate or severe.

The presence of any physical disorders and the degree of interference with normal function was noted.

Details of any previous psychiatric illness was obtained with particular attention to treatment and the incidence of suicidal attempts. Case notes were obtained from hospitals where treatment had been received.

### The Premorbid Personality

This was assessed on the basis of the patient's and relatives' account. The premorbid personality traits were categorized according to whether they were obsessional, schizoid, paranoid, sensitive, hypochondriacal, aggressive, submissive, hysterical, cyclothymic and emotionally unstable. The precise definitions employed are defined later.

The number of referrals to other specialities during the illness was noted as well as the number of operations for the current complaint and any other previous conditions. Only operations requiring a general anaesthetic were included.

### Aetiological Factors

A history of events which might be considered of aetiological importance was sought. These included an illness or operation experienced by the patient or the illness or a close relative or friend; reports of illness heard on radio, television or read in newspapers or books; feelings of guilt; feelings of resentment and hostility towards an individual which could or could not be expressed. A history of nursing

an invalid was noted. The presence of any compensation factors or the relating of the illness to an accident were considered of importance. Iatrogenic factors were inquired for and any history of recent bereavement was also noted.

In all cases, the event was considered a possible aetiological factor if the patient dated the onset of symptoms from the time of its occurrence or if the event took place during the year previous to the onset of symptoms.

#### The Follow-Up Study

Information concerning the patient's progress was obtained during the first six months of 1965. This was obtained from the patients where possible, but in the main, from the case notes, from the doctor treating the case and, where necessary, from the patient's general practitioner. A note was made of the treatment received by the patient and the time spent in hospital.

The Mill Hill Vocabulary Scale, Form 1 Senior was administered to fifty consecutive hypochondriacal patients and all the control sample.

The Cornell Medical Index was administered to fifty consecutive hypochondriacal patients and fifty six of the control sample.

**The nature of this questionnaire is described later.**

PART TWO:

Results

1. Sex Distribution

There are virtually equal numbers of male and female subjects in the hypochondriacal sample. Although the proportion of males in this group is higher than that in the control sample the difference is not significant (Table 37).

Table 37 - Sex Distribution

	Hypochondriasis	Control	
Male	73 (49.7%)	25 (38.5%)	98
Female	74 (50.3%)	40 (61.5%)	114
Totals	147 (100%)	65 (100%)	212

$\chi^2 = 2.27$  1 df n.s.

Age Distribution

The age distribution pattern of the hypochondriacal sample did not differ significantly from that of the control patients. As can be seen from Table 38 there is a tendency for hypochondriacal patients to be over-represented in the 55 - 64 age group and under-represented in the 35 - 44 years age group.

Table 38 - Age Distribution in Hypochondriacal and Control Groups

	Age Groupings (Years)						
	0-24	25 - 34	35 - 44	45 - 54	55 - 64	65 +	
Hypochondriacal	8(5.4%)	35(23.8%)	31(21.1%)	37(25.2%)	30(20.4%)	6(4.1%)	147
Control	3(4.6%)	14(21.5%)	20(30.8%)	15(23.1%)	8(12.3%)	5(7.7%)	65
Totals	11	49	51	52	38	11	212

$$\chi^2 = 2.38, 3 \text{ df } p < 0.05$$

This pattern is less marked in the male than in the female patients. The age distributions for each sex are shown in tables 39 and 40.

Table 39 - Age Distribution: Females.

	Age Groupings (Years)						
	0-24	25 - 34	35-44	45-54	55-64	65+	
Hypochondriasis	3(4.1%)	21(28.4%)	14(19%)	20(27%)	12(16%)	4(5.4%)	74
Control	2(5%)	11(27.5%)	12(30%)	9(22.5%)	3(7.5%)	3(7.5%)	40
Totals	5	32	26	29	15	7	114

$$\chi^2 = 2.2 \quad 3 \text{ df } \text{ n.s.}$$

Table 40 - Age Distribution - Males

	Age Groupings (Years)						
	0-24	25-34	35-44	45-54	55-64	65 +	
Hypochondriasis	5(6.8%)	14(19.2%)	17(23.3%)	17(23.3%)	18(24.7%)	2(2.7%)	73
Control	1(4%)	3(12%)	8(32%)	6(24%)	5(20%)	2(8%)	25
Totals	6	17	25	23	23	4	

$$\chi^2 = 1.36 \quad 3 \text{ df} \quad \text{n.s.}$$

The mean age of the hypochondriacal patients was 43.37 years (Standard Deviation = 12.96) and the mean age of the control patients was 42.89 (Standard Deviation = 12.5). The difference between the means was 1.47 and the standard error of the difference was 1.88.

The hypochondriacal females had a mean age of 43.03 years (Standard Deviation = 13.4) and the control females a mean age of 41.48 (Standard Deviation = 12.48). The difference between the means (1.55) was less than the standard error of the difference (2.51)

The hypochondriacal males had a mean age of 43.73 years (Standard

Deviation = 12.45) and the control males a mean age of 45.16 years (Standard Deviation = 12.1). The difference between the means (1.43) is smaller than its standard error (2.84) and thus, of course, not statistically significant.

Civil State

The proportion of patients married is virtually the same in the hypochondriacal and control samples (Table 41).

Table 41 - Civil State

	Hypochondriasis	Control	
Married	116 (78.9%)	51 (78.5%)	167
Single	22 (15%)	4 (6.2%)	26
Widowed	5 (3.4%)	4 (6.2%)	9
Divorced or Separated	4 (2.7%)	6 (9.2%)	10
Totals	147 (100%)	65 (100%)	212

There would appear to be a higher proportion of unmarried subjects in the hypochondriacal sample but a larger proportion of widowed, divorced or separated subjects in the control group. Grouping all patients who are not married the difference between the two samples is not significant ( $\chi^2 = 0.005, 1 \text{ df n.s.}$ ).

When the figures for males and females are considered separately (Tables 42 and 43) the preponderance of single subjects is seen to occur more prominently in the male hypochondriacal patients.

Table 42 - Civil State in Females

	Hypochondriasis	Control	
Married	60 (81.1%)	30 (75%)	90
Single	6 (8.1%)	2 (5%)	8
Widowed	5 (6.8%)	4 (10%)	9
Divorced or Separated	3 (4.1%)	4 (10%)	7
Totals	74 (100%)	40 (100%)	114

$$\chi^2 = 0.27 \quad 1 \text{ df} \quad \text{n.s.}$$

(patients not married have been grouped)

Table 43 - Civil State in Males

	Hypochondriasis	Control	
Married	56 (76.7%)	21 (84%)	77
Single	16 (21.9%)	2 (8%)	18
Widowed	0	0	0
Divorced or Separated	1 (1.4%)	2 (8%)	3
Totals	73 (100%)	25 (100%)	98

$$\chi^2 = 0.23 \quad 1 \text{ df} \quad \text{n.s.}$$

(patients not married have been grouped)

Social Class:

In view of the small numbers in the upper four classes these have been grouped into two classes (1 + 2 and 3 + 4). As can be seen from Table 44 the hypochondriacal patients are more common in the lower

social classes and under-represented in the "white-collar" and skilled occupations. This finding is highly significant.

Table 44 - Social Class

	Social Class					
	1 + 2	3 + 4	5	6	7	
Hypochondriasis	2 (1.4%)	9 (6.1%)	46 (31.3%)	50 (34%)	40 (27.2%)	147 (100%)
Control	5 (7.7%)	13 (20%)	31 (47.7%)	12 (18.5%)	4 (6.2%)	65 (100%)
Totals	7	22	77	62	44	212

$$\chi^2 = 31.57 \quad 3 \text{ df} \quad p < 0.001$$

(Classes 1 - 4 combined)

The figures for males and females taken separately are very similar to those of the group as a whole and are shown in Tables 45 and 46. In both cases the differences attain statistical significance.

Table 45 - Social Class in Males

	Social Class					
	1 + 2	3 + 4	5	6	7	
Hypochondriasis	1 (1.4%)	6 (8.2%)	22 (30.1%)	25 (34.2%)	19 (26%)	73 (100%)
Control	2 (8%)	7 (28%)	10 (40%)	5 (20%)	1 (4%)	25 (100%)
Totals	3	13	32	30	20	98

$$\chi^2 = 14.17 \quad 3 \text{ df} \quad p < 0.01$$

(Classes 1 - 4 combined)

Table 46 - Social Class in Females

	Social Class					
	1 + 2	3 + 4	5	6	7	
Hypochondriasis	1 (1.4%)	3 (4.1%)	24 (32.4%)	25 (33.8%)	21 (28.4%)	74 (100%)
Control	3 (7.5%)	6 (15%)	21 (52.5%)	7 (17.5%)	3 (7.5%)	40 (100%)
Totals	4	9	45	32	24	114

$$\chi^2 = 17.13 \quad 3 \text{ df} \quad p < 0.001$$

(Classes 1 - 4 combined)

Source of Referral

Patients were categorized according to whether they had been initially referred to the Department of Psychiatry by their own General Practitioner (G.P.) or whether they had been referred by a consultant in a non-psychiatric department of the United Sheffield Hospitals. As can be seen from Table 47 a higher proportion of hypochondriacal patients were referred from other hospital departments. The difference is statistically significant.

Table 47 - Source of Referral

	Hypochondriasis	Control	
Referred by G.P.	97. (66%)	54 (83.1%)	151
Referred by other consultant	50 (34%)	11 (16.9%)	61
Totals	147 (100%)	65 (100%)	212

$$\chi^2 = 5.62 \quad 1 \text{ df} \quad p < 0.02$$

Both the male and female groups show differences in the same direction but these attain statistical significance in the males only (Tables 48 and 49).

Table 48 - Source of Referral of Females

	Hypochondriasis	Control	
Referred by G.P.	50 (67.6%)	32 (80%)	82
Referred by other consultant	24 (32.4%)	8 (20%)	32
Totals	74 (100%)	40 (100%)	114

$$\chi^2 = 1.42 \quad 1 \text{ df} \quad p > 0.05$$

Table 49 - Source of Referral of Males

	Hypochondriasis	Control	
Referred by G.P.	47 (64.4%)	22 (88%)	69
Referred by other consultant	26 (35.6%)	3 (12%)	
Totals	73 (100%)	25 (100%)	98

$$\chi^2 = 3.91 \quad 1 \text{ df} \quad p < 0.05$$

Clinical Setting of First Research Interview

It had been hoped that the control patients could be drawn in proportions matching those of the hypochondriacal sample from among new referrals, day and in-patients as well as patients attending the follow-up clinics. This was difficult for practical reasons and as can be seen from Table 50 the samples are not well matched on this parameter. It is also possible that the proportions are in some way related to incidence

of hypochondriacal phenomena in the various clinical settings.

**Table 50 - Clinical Setting of First Research Interview**

	Hypochondriasis	Control	
New Referral Clinic	40 (27.2%)	12 (18.5%)	52
In-Patient Unit	25 (17%)	20 (30.8%)	45
Follow-Up Clinic	69 (46.9%)	21 (32.3%)	90
Day Hospital	13 (8.8%)	12 (18.5%)	25
Totals	147 (100%)	65 (100%)	212

$$\chi^2 = 11.24 \quad 3 \text{ df} \quad p < 0.02$$

Examination of the figures for the female patients (Table 51)

suggests that these subjects were better matched than the males (Table 52).

**Table 51 - Females: Clinical Setting of First Research Interview**

	Hypochondriasis	Control	
New Referral Clinic	25 (33.8%)	8 (20%)	33
In-Patient Unit	13 (17.6%)	10 (25%)	23
Follow-Up Clinic	29 (39.2%)	15 (37.5%)	44
Day Hospital	7 (9.5%)	7 (17.5%)	14
Totals	74 (100%)	40 (100%)	114

Table 52 - Males: Clinical Setting of First Research Interview

	Hypochondriacal	Control	
New Referral Clinic	15 (20.5%)	4 (16%)	19
In-Patient Unit	12 (16.4%)	10 (40%)	22
Follow-Up Clinic	40 (54.8%)	6 (24%)	46
Day Hospital	6 (8.2%)	5 (20%)	11
Totals	73 (100%)	25 (100%)	98

To carry out Chi-Square tests the patients first seen as in or day-patients were grouped and compared with those first seen as new referrals or in the follow-up (out-patient) clinic, since it seems reasonable to assume that these settings reflect, to some degree, the severity of the illness.

In the case of the female subjects the difference was not significant ( $\chi^2 = 2.2$ , 1 df, n.s.) but in the case of the men the difference was highly significant ( $\chi^2 = 8.9$ , 1 df,  $p < 0.01$ ).

The larger proportion of control patients seen as in or day patients would seem to be less undesirable a trend than one in the opposite direction, which might have led to the problem of deciding whether differences between the hypochondriacal and control groups were due simply to the fact that the former consisted of patients who were more seriously ill.

Clinical Features

Duration of Illness at Time of Referral

Patients were asked how long they had been ill before first coming to the Department of Psychiatry. Such estimates are, of course, highly subjective and the figures have therefore been grouped. As can be seen from Table 53, hypochondriacal patients tended to report longer illnesses and this finding was statistically significant.

Table 53 - Duration of Illness on Referral

	Duration of Illness (months)				
	0 - 6	7 - 12	13 - 24	25 +	
Hypochondriasis	38 (25.9%)	22 (15%)	30 (20.4%)	57 (38.8%)	147 (100%)
Control	34 (52.3%)	14 (21.5%)	2 (3.1%)	15 (23.1%)	65 (100%)
Totals	72	36	32	72	212

$$\chi^2 = 22.68 \quad 3 \text{ df} \quad p < 0.001$$

The major contribution to this difference was made by the female subjects since, as can be seen from Tables 54 and 55, the male subjects did not differ significantly with regard to length of illness although the same trend is present.

Table 54 - Females: Duration of Illness on Referral

	Duration of Illness (months)				
	0 - 6	7 - 12	13 - 24	25 +	
Hypochondriasis	17 (23%)	12 (16.2%)	18 (24.3%)	27 (36.5%)	74 (100%)
Control	21 (52.5%)	10 (25%)	1 (2.5%)	8 (20%)	40 (100%)
	38	22	19	35	114

$$\chi^2 = 17.55 \quad 3 \text{ df} \quad p < 0.001$$

Table 55 - Males: Duration of Illness on Referral in Hypochondriacal and Control Groups

	Duration of Illness (months)				
	0 - 6	7 - 12	13 - 24	25 +	
Hypochondriasis	21 (28.8%)	10 (13.7%)	12 (16.4%)	30 (41.1%)	73 (100%)
Control	13 (52%)	4 (16%)	1 (4%)	7 (28%)	25 (100%)
	34	14	13	37	98
	$\chi^2 = 5.98 \quad 3 \text{ df} \quad \text{n.s.}$				

Diagnosis

In this section the diagnoses are those which were made by the author after examination of the patient. The criteria employed were those described in Part One. It was possible, however, to subdivide the "anxiety/hysteria" group into those patients in whom anxiety was the most prominent feature, and those in whom hysterical features predominated. These two groups have been designated "anxiety states" and "hysterical states" respectively.

In those cases where the author's diagnosis differed from that which had already been made the diagnosis was discussed with the doctor responsible for the patient and agreement reached.

As previously mentioned, the diagnosis of "hypochondriasis" was made when this was the most prominent symptom and no other diagnosis could be made. In particular, it was specified that at no stage of the illness should there have been more than mild anxiety or depression.

"Endogenous depression" was more common in the control group and this finding was highly significant statistically. The figures are shown in Table 56. The findings are the same for each sex (Table 57).

Table 56 - Endogenous Depression

	Hypochondriasis	Control	
Endogenous Depression	40 (27.2%)	38 (58.5%)	78
Other	107 (72.8%)	27 (41.5%)	134
Totals	147 (100%)	65 (100%)	212

$\chi^2 = 17.61$  1 df  $p < 0.001$

Table 57 - "Endogenous Depression" (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Endogenous Depression	18 (24.3%)	23 (57.5%)	22 (30.1%)	15 (60%)	78
Other	56 (75.7%)	17 (42.5%)	51 (69.9%)	10 (40%)	134
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

$\chi^2 = 11.01$  1 df  $p < 0.001$        $\chi^2 = 5.85$  1 df  $p < 0.02$

"Neurotic depression" was also commoner in the control patients (Table 58) and the difference was significant. The trend was present in both sexes but the numbers too small for tests of significance (Table 59).

Table 58 - Neurotic Depression

	Hypochondriasis	Control	
Neurotic Depression	8 (5.4%)	11 (16.9%)	19
Other	139 (94.6%)	54 (83.1%)	193
Totals	147 (100%)	65 (100%)	212

$$\chi^2 = 5.6 \quad 1 \text{ df} \quad p < 0.02$$

Table 59 - "Neurotic Depression" (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Neurotic Depression	7 (9.5%)	6 (15%)	1 (1.3%)	5 (20%)	19
Other	67 (90.5%)	34 (85%)	72 (98.7%)	20 (80%)	193
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

"Anxiety states" tended to be commoner in male hypochondriacal patients than in male controls. The reverse was true for the female subjects. With the sexes combined the incidence of anxiety states was virtually the same for both groups (Tables 60 and 61).

Table 60 - Anxiety States

	Hypochondriasis	Control	
Anxiety State	18 (12.2%)	9 (13.8%)	27
Other	129 (87.8%)	56 (86.2%)	185
Totals	147 (100%)	65 (100%)	212

$$\chi^2 = 0.01 \quad 1 \text{ df} \quad \text{n.s.}$$

Table 61 - "Anxiety States" (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Anxiety State	7 (9.5%)	7 (17.5%)	11 (15.1%)	2 (8%)	27
Other	67 (90.5%)	33 (82.5%)	62 (84.9%)	23 (92%)	185
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

Numbers too small for test of significance.

"Hysterical states" are somewhat commoner in the hypochondriacal group but, unlike the anxiety states, predominate in the female patients. With regard to this diagnosis the hypochondriacal subjects do not differ significantly from the controls (Tables 62 and 63).

Table 62 - "Hysterical States"

	Hypochondriasis	Control	
Hysterical States	14 (9.5%)	3 (4.6%)	17
Other	133 (90.5%)	62 (95.4%)	195
Totals	147 (100%)	65 (100%)	212

$$\chi^2 = 0.88 \quad 1 \text{ df} \quad \text{n.s.}$$

Table 63 - "Hysterical States" (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Hysterical States	12 (16.2%)	2 (5%)	2 (2.7%)	1 (4%)	17
Other	62 (83.8%)	38 (95%)	71 (97.3%)	24 (96%)	195
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

Numbers too small for tests of significance

"Sexual disorders" were extremely uncommon. They did not occur in the control group. Among the hypochondriacal men, however, one gave a history of homosexual experiences, two were troubled by excessive masturbation and one gave a history of a court appearance for indecently assaulting a young girl. There was no violence involved in the latter case. Loss of libido and frigidity are considered later.

Schizophrenia was diagnosed in only one male control, and none of the hypochondriacal patients were diagnosed as schizophrenic.

Personality Disorder was the diagnosis in only one male subject in the control sample and was not made as the main diagnosis in any of the hypochondriacal patients.

Subnormality was considered present in one hypochondriacal male patient and one control female patient.

Obsessional neurosis was diagnosed in one male and two female control patients. One female hypochondriacal patient was given this diagnosis.

Hypochondriasis as an entity was diagnosed in 29 female and 37 male patients. Thus, of the hypochondriacal sample 66 patients or 44.9% fell into the category of what has been called "primary" or "essential" hypochondriasis.

### Symptomatology

The somatic symptoms of the hypochondriacal patients have been classified both according to the region of the body and the system involved. Patients have also been categorized on the basis of whether

they were pre-occupied with a disease or dysfunction which they feared would befall them in the future, or whether they were pre-occupied with current somatic symptoms only. The degree to which they were accessible to reassurance was noted.

Symptoms were also graded according to whether they were present all the time, more than half the time, only occasionally or never (the latter two grades applying only to the patient's state at follow-up).

Table 64 lists the regions of the body involved in order of frequency. Individual patients may, of course, have had more than one region or system involved.

Table 64 - Regions of Body Involved in Hypochondriacal Patients

<u>Region</u>	<u>Females</u> N = 74	<u>Males</u> N = 73	<u>Total</u> N = 147
Head and Neck	39 (52.7%)	34 (46.6%)	73 (49.7%)
Chest	32 (43.2%)	26 (35.6%)	58 (39.5%)
Abdomen	21 (28.4%)	25 (34.2%)	46 (31.3%)
Back	12 (16.2%)	10 (13.7%)	22 (15%)
"all Over"	16 (21.6%)	6 (8.2%)	22 (15%)
Eyes	6 (8.1%)	11 (15.1%)	17 (11.6%)
Upper Limbs	4 (5.4%)	9 (12.3%)	13 (8.8%)
Lower Limbs	7 (9.5%)	5 (6.8%)	12 (8.2%)
Genitalia	4 (5.4%)	8 (11.0%)	12 (8.2%)
Anal	1 (1.4%)	5 (6.8%)	6 (4.1%)

As can be seen from Table 64 the regions most commonly involved in both sexes were the head and neck, chest and abdomen.

The frequency with which the various systems were involved is shown in Table 65.

Table 65 - Somatic Complaints in Hypochondriacal Patients by System Involved

<u>System</u>	<u>Females</u> N = 74	<u>Males</u> N = 73	<u>Total</u> N = 147
Gastrointestinal	29 (39.2%)	32 (43.8%)	61 (41.5%)
Musculo-skeletal	21 (28.4%)	26 (35.6%)	47 (32%)
Cardiovascular	24 (32.4%)	19 (26.0%)	43 (29.3%)
Nervous system (including special senses)	18 (24.3%)	20 (27.4%)	38 (25.9%)
Respiratory	21 (28.4%)	14 (19.2%)	35 (23.8%)
Urogenital	13 (17.6%)	12 (16.4%)	25 (17%)
Skin and Hair	5 (6.8%)	5 (6.8%)	10 (6.8%)
Sensorium	1 (1.4%)	6 (8.2%)	7 (-)

The somatic symptoms complained of varied enormously. The commonest symptom complained of was pain which was mentioned by 39 (52.7%) of the females and 48 (65.8%) of the males.

Apart from pain, symptoms complained of included tiredness and exhaustion, dizziness and sickness, palpitations, trembling and shakiness, choking and a lump in the throat, indigestion, faintness, itching, insomnia, poor vision, spots before the eyes, catarh, noises in the head, a bad taste in the mouth and dryness of the mouth.

As mentioned earlier, attitudes to illness varied from fear to conviction of the presence of a specific or non-specific disease.

Some patients were preoccupied with symptoms without having any specific disease in mind.

Of the total sample of hypochondriacal patients, 52 (35.4%) had fears of illness. These included 27 females and 25 males.

The contents of patients' fears are listed in Table 66. The commonest were of cancer in general, cancer of the lung, sudden death and heart disease. While these conditions were usually regarded with fearful anticipation the line between fear and belief in the presence of illness was often blurred. It should be mentioned that no patient was without somatic symptoms regardless of whether illness was feared or believed to be present.

Table 66 - Content of Fear in Hypochondriacal Patients

	<u>Females</u>	<u>Males</u>	<u>Totals</u>
	N = 27	N = 25	N = 52
Cancer (unspecified)	12	11	23
Cancer: lung	8	8	16
Sudden death	7	8	15
Heart disease	7	7	14
Cancer: bowel	8	1	9
Brain tumour	4	3	7
Insanity	1	6	7
Tuberculosis	3	3	6
Cerebral "Thrombosis"	2	3	5
Venereal Disease	2	2	4
Kidney Disease	1	3	4

/Table continued

Continuation of Table 66

	<u>Females</u>	<u>Males</u>	<u>Totals</u>
	N = 27	N = 25	N = 52
Leukaemia	2	1	3
Cancer: breast	3	0	3
"Stroke"	0	2	2
"Burst Appendix"	0	1	1
Muscle disease	0	1	1
Brain haemorrhage	0	1	1
Heart attack	0	1	1
Cancer: cervix	1	0	1
Anaemia	1	0	1

Of the patients who did not fear illnesses the vast majority were pre-occupied with symptoms and only four of the 47 females believed in the presence of a specific condition (thyroid disease, cancer, venereal disease, and a perforated ulcer). Of the 48 men without fears of illness eleven believed a specific disease was present. In eight subjects this was a cancer, in two venereal disease and in one heart disease.

As previously mentioned, symptoms were also graded according to whether they were present all the time or whether the patient did report periods of relief. The numbers in each category are shown in Table 67. A substantial majority maintained that their symptoms were continuous.

**Table 67 - Continuous and Non-Continuous Symptoms in Hypochondriacal Patients**

	Females	Males	
Symptoms not continuous	18 (24.3%)	16 (21.9%)	34
Symptoms continuous	56 (75.7%)	57 (78.1%)	113
	74	73	147

**Complaint Behaviour at Interview**

On the basis of their behaviour during successive interviews patients were classified according to whether they tended to complain spontaneously and at considerable length about their symptoms and pre-occupations or whether they were more reticent and tended to be less spontaneous although they would voice their concerns as the interview progressed. They were described as spontaneous and un-spontaneous. The incidence of these two types of patient is shown in Table 68. Only 24 patients were in any way reticent about their complaints.

**Table 68 - Spontaneous and Non-Spontaneous Hypochondriacal Patients**

	Females	Males	
Spontaneous	61 (82.43%)	62 (84.93%)	123
Non-Spontaneous	13 (17.56%)	11 (15.06%)	24
	74	73	147

Response to reassurance was by definition only temporary if present at all. Patients were categorized according to whether they responded temporarily when reassurance was given and expressed belief in the

therapist's opinion and relief of their concern. The other patients showed absolutely no response to explanation and reassurance and continued to ask for advice or further investigations immediately after reassurance had been given. The proportions of these two types of hypochondriacal patients are shown in Table 69.

Table 69 - Response to Reassurance in Hypochondriacal Patients

	Females	Males	
Temporary response to reassurance	33 (44.6%)	29 (39.7%)	62 (42.2%)
No response	41 (55.4%)	44 (60.3%)	85 (57.8%)
Totals	74 (100%)	73 (100%)	147 (100%)

Complaint Patterns in Hypochondriacal and Control Patients

The control patients were, of course, chosen because they did not show persistent complaining behaviour. However, it was felt desirable to compare their complaints with those of the hypochondriacal patients as objectively as possible. To this end the Cornell Medical Index was used since it offers the patient an opportunity to respond to a wide variety of questions relating to physical and psychological dysfunction.

The Cornell Medical Index is an inventory which was developed by Brodman et al (1949) as an aid to history-taking. It consists of a questionnaire with 195 items, to which the patient answers "yes" or "no". The questions are grouped under systems labelled A to R. Groups A to L form the somatic or "medical" section, while groups M to R are concerned with the "psychiatric" symptoms. There are different forms of the inventory for the two sexes. The inventory is given to the patient as

a printed form which he is asked to fill in, a procedure which normally takes 15 to 20 minutes. Patients were given three scores: a "somatic score", which consisted of the total number of questions in sections A to L which were responded to affirmatively; a "psychiatric score" similarly derived from sections M to R and a "total score" obtained by adding these two scores together.

The questionnaire was completed by fifty consecutive patients in the hypochondriacal group and fifty six in the control group. The sex ratios and mean ages of these patients are shown in Table 70.

Table 70 - Cornell Medical Index: Sex and Age of Patients Completing the Questionnaire

	Hypochondriacal		Control	
	Female	Male	Female	Male
	22	28	34	22
Mean Age (years)	44.1	44.4	42.5	44.3
Standard Deviation	12.3	11.3	13.1	11.9

The female hypochondriacal and control groups do not differ significantly with regard to age - the difference between the two means (1.6 years) is smaller than the standard error of the difference (3.4). The same is true of the male subjects (difference between means is 0.085 years and the standard error of the difference is 3.3).

The distribution of scores for female patients is shown in Table 71 and that of males in Table 72.

Table 71 - Distribution of Cornell Medical Index Scores in Females

Range	"Somatic" score (A-L) 144 Items		"Psychiatric" score (M-R) 51 Items		Total (A-R) 195 Items	
	Hypochondriasis	Control	Hypochondriasis	Control	Hypochondriasis	Control
0 - 9	0	4	4	12	0	2
10 - 19	4	12	6	8	0	4
20 - 29	2	8	4	8	3	7
30 - 39	4	4	8	5	3	6
40 - 49	2	4	0	1	1	4
50 - 59	6	1	0	0	2	2
60 - 69	3	1			3	4
70 - 79	1	0			2	1
80 - 89	0	0			3	3
90 - 99	0	0			4	1
100 -109	0	0			1	0
110 -119	0	0			0	0
Over 119	0	0			0	0
Average	41.82	24.3	22.55	17.18	64.36	41.47
Standard Deviation	18.4	14.6	11.4	11.4	26.8	24.6

**Table 72 - Distribution of Cornell Medical Index in Male Hypochondriacal and Control Subjects**

	"Somatic score (A-L) 144 Items		"Psychiatric" score (M-R) 51 Items		Total (A-R) 195 Items	
	Hypochondriasis	Control	Hypochondriasis	Control	Hypochondriasis	Control
0 - 9	1	4	10	7	1	3
10 - 19	4	10	7	2	0	7
20 - 29	6	5	5	2	6	6
30 - 39	8	2	3	0	4	0
40 - 49	3	1	3	1	3	4
50 - 59	2	0	0	0	3	2
60 - 69	2	0			4	0
70 - 79	1	0			0	0
80 - 89	0	0			3	0
90 - 99	0	0			1	0
100 -109	0	0			1	0
110 -119	1	0			1	0
Over 119	0	0			1	0
Average	37.93	17.2	18.61	8.95	56.54	26.14
Standard Deviation	22.8	8.9	13.	10.1	33.8	17.6

As would be expected, the average scores of the hypochondriacal patients tend to be appreciably higher than those of the control subjects. To test the significance of the differences the Mann-Whitney U test (Siegel 1956) as a non-parametric technique seemed desirable in view of the skew distribution of scores. The male and female subjects were

compared separately and the results are shown in Tables 73 and 74.

Table 73 - Cornell Medical Index: Comparison of Female Hypochondriacal and Female Control Patients

		Hypochondriacal Patients		
		Somatic score	Psychiatric score	Total
		A - L	M - R	A - R
Control Patients	Somatic score A - L	$z = 3.32$ $p = 0.0005$		
	Psychiatric score M - R		$z = 1.66$ $p = 0.048$	
	Total A - R			$z = 2.84$ $p = 0.0023$

It will be noted from Table 73 that, while all differences are significant, the differences between "somatic" scores show a higher degree of significance than the differences between "psychiatric" scores.

Table 74 - Cornell Medical Index: Comparison of Male Hypochondriacal and Control Patients

		Hypochondriacal Patients		
		Somatic score	Psychiatric score	Total
		A - L	M - R	A - R
Control Patients	Somatic score A - L	$z = 4.07$ $p = 0.00003$		
	Psychiatric score M - R		$z = 2.94$ $p = 0.0016$	
	Total A - R			$z = 3.86$ $p = 0.00007$

In addition to comparing overall scores the number of responses to each item by the hypochondriacal and control groups were compared. The significance of the difference between the percentage of each group answering "yes" to an item was obtained using Zubin's (1939) nomograms. These reduce the labour of making a large number of comparisons. Random comparisons were checked using the conventional Chi-Square method and the nomograms were found to be highly reliable.

The items which differentiate significantly between the hypochondriacal and control groups are listed in Table 75. The items not discriminating are listed in Appendix 1.

Table 175: Item Analysis of Responses by Hypochondriacal and Non-Hypochondriacal Patients on Cornell Medical Index

Question	FEMALES		MALES		TOTALS		
	No. answering "Yes"	Hypoch. Control	No. answering "Yes"	Hypoch. Control	No. answering "Yes"	Hypoch. Control	
	N=22	N=34	N=28	N=22	N=50	N=56	
5. Do you often have bad pains in your eyes?	9	2	10	0	19	2	p < .001
6. Are your eyes often red or inflamed?	8	2	6	2	14	4	p < .05
9. Do you have constant noises in your ears?	6	3	10	3	16	6	p < .01
10. Do you have to clear your throat frequently?	14	14	18	3	32	17	p < .001
11. Do you often feel a choking lump in your throat?	15	11	11	4	36	15	p < .01
16. Do you often catch severe colds?	7	4	18	3	25	7	p < .05
18. When you catch a cold, do you always have to go to bed?	2	0	2	0	4	0	p < .01
22. Are you troubled by constant coughing?	2	2	6	0	8	2	p .001

Table 75 continued

Question	FEMALES			MALES			TOTALS		
	No. answering "Yes"	p		No. answering "Yes"	p		No. answering "Yes"	p	
	Hypoch. Control N=22	Control N=34		Hypoch. Control N=28	Control N=22		Hypoch. Control N=50	Control N=56	
23. Have you ever coughed up blood?	5	1	p < .05	7	1	p < .05	12	2	p < .001
29. Has a doctor ever said your blood pressure was too low?	1	4	NS	3	0	p < .05	4	4	NS
30. Do you have pains in the heart or chest?	10	7	p < .05	16	2	p < .001	26	9	p < .001
31. Are you often bothered by thumping of the heart?	14	15	NS	13	3	p < .05	27	18	p < .05
32. Does your heart often race like mad?	13	16	NS	13	1	p < .001	26	17	p < .05
33. Do you often have difficulty in breathing?	11	7	p < .05	10	2	p < .05	21	9	p < .001
34. Do you get out of breath long before anyone else?	16	11	p < .001	11	2	p < .05	27	13	p < .001
35. Do you sometimes get out of breath just sitting still?	8	1	p < .001	5	0	p < .001	13	1	p < .001
38. Do you suffer from frequent cramps in your legs?	11	4	p < .001	8	1	p < .05	19	5	p < .001
45. Is your appetite always poor?	9	8	NS	11	2	p < .05	20	10	p < .01

Table 75 continued

Question	FEMALES			MALES			TOTALS		
	No. answering "yes"	Hypoeh. Control N=22	p	No. answering "Yes"	Hypoeh. Control N=28	p	No. answering "Yes"	Hypoeh. Control N=50	p
		N=34			N=56			N=56	
48. Do you often suffer from an upset stomach?	13	6	p < .001	19	4	p < .001	32	10	p < .001
49. Do you usually feel bloated after eating?	12	4	p < .001	13	2	p < .001	25	6	p < .001
50. Do you usually belch a lot after eating?	7	4	NS	14	1	p < .001	21	5	p < .001
52. Do you suffer from indigestion?	12	6	p < .05	18	2	p < .001	30	8	p < .001
54. Do you suffer from constant stomach trouble?	6	1	p < .01	13	0	p < .001	19	1	p < .001
59. Were you ever troubled with intestinal worms?	1	3	NS	5	0	p < .05	6	3	NS
60. Do you constantly suffer from bad constipation?	8	7	NS	11	1	p < .001	19	8	p < .01
63. Have you ever had serious liver or gall bladder trouble?	0	3	p < .05	2	0	NS	2	3	NS
65. Do your muscles and joints constantly feel stiff?	9	2	p < .001	14	1	p < .001	23	3	p < .001
66. Do you usually have severe pains in the arms and legs?	9	1	p < .001	10	0	p < .001	19	1	p < .001

Table 75 continued

Question	FEMALES		MALES		TOTALS	
	No. answering "Yes" Hypoeh. Control N=22	p	No. answering "Yes" Hypoeh. Control N=28	p	No. answering "Yes" Hypoeh. Control N=50	p
67. Are you crippled with severe rheumatism (arthritis?)	1	0	NS	4	0	p < .05
70. Do pains in your back make it hard for you to keep up with your work?	7	3	p < .05	10	1	p < .01
71. Are you troubled with a serious bodily disability or deformity?	0	0	p < .05	3	0	p < .05
76. Are you often bothered by severe itching?	6	6	NS	8	1	p < .05
79. Do you suffer badly from frequent severe headaches?	11	3	p < .001	11	4	NS
80. Does pressure or pain in the head often make life miserable?	11	11	p < .01	13	6	NS
81. Are headaches common in your family?	9	6	NS	5	1	NS
83. Do you often have spells of severe dizziness?	8	8	NS	11	2	p < .05
84. Do you frequently feel faint?	6	6	NS	7	0	p < .001
86. Do you have a constant numbness or tingling in any part of your body?	10	3	p < .001	9	1	p < .01

Table 75 continued

Question	FEMALES		MALES		TOTALS	
	No. answering "Yes" Hypoeh. Control N=22	p	No. answering "Yes" Hypoeh. Control N=28	p	No. answering "Yes" Hypoeh. Control N=50	p
87. Was any part of your body ever paralysed?	3	$p < .01$	1	NS	4	NS
91. Has anyone in your family ever had fits or convulsions (epilepsy)?	3	NS	3	$p < .05$	6	NS
94. Are you a sleep walker?	0	NS	2	NS	2	$p < .05$
97. Have you ever had anything seriously wrong with your genitals (privates)?			7	$p < .001$		
98. Are your genitals often painful or sore?			6	$p < .001$		
102. Do you have trouble starting your stream when urinating?			7	$p < .05$		
103. Do you have to get up every night and urinate?	9	$p < .05$	3	NS	12	NS
104. During the day, do you usually have to urinate frequently?	12	$p < .05$	13	$p < .05$	25	$p < .001$
105. Do you often have severe burning pain when you urinate?	6	$p < .05$	4	NS	10	$p < .05$
106. Do you sometimes lose control of your bladder?	3	NS	3	$p < .05$	6	NS

Table 75 continued

Question	FEMALES		MALES		TOTALS	
	No. answering "yes" Hypoeh. Control N=22	p	No. answering "Yes" Hypoeh. Control N=28	p	No. answering "Yes" Hypoeh. Control N=50	p
108. Do you often get spells of complete exhaustion or fatigue?	3	p < .001	17	NS	20	NS
110. Do you usually get up tired and exhausted in the mornings?	13	NS	19	p < .05	32	p < .05
111. Does ever little effort wear you out?	9	NS	9	NS	18	p < .05
113. Do you suffer from severe nervous exhaustion?	11	NS	18	p < .001	29	p < .01
114. Does nervous exhaustion run in your family?	6	p < .05	3	NS	9	p < .05
115. Are you frequently ill?	10	p < .001	10	p < .05	20	p < .001
117. Are you always in poor health?	10	p < .001	12	p < .001	22	p < .001
118. Are you considered a sickly person?	2	NS	8	p < .05	10	p < .01
119. Do you come from a sickly family?	3	NS	4	p < .01	7	p < .05
120. Do severe pains and aches make it impossible for you to do your work?	6	p < .001	6	NS	12	NS

Table 75 continued

Question	FEMALES			MALES			TOTALS		
	No. answering "Yes"	Hypoch. Control N=22	p	No. answering "Yes"	Hypoch. Control N=28	p	No. answering "Yes"	Hypoch. Control N=50	p
121. Do you wear yourself out worrying about your health?	12	1	p < .001	19	3	p < .001	31	4	p < .001
122. Are you always ill and unhappy?	9	1	p < .001	10	0	p < .001	19	1	p < .001
123. Are you constantly made miserable by poor health?	14	3	p < .001	16	2	p < .001	30	5	p < .001
125. As a child, did you have rheumatic fever, growing pains or twitching of the limbs?	5	3	NS	5	1	NS	10	4	p < .05
137. Did you ever have a serious injury?	0	4	p < .05	3	4	NS	3	8	NS
139. Do you usually have great difficulty in falling asleep or staying asleep?	15	16	NS	20	9	p < .05	35	25	p < .001
141. Do you find it impossible to take regular daily exercise?	10	7	p < .05	13	6	NS	23	13	p < .05
142. Do you smoke more than 20 cigarettes a day?	0	3	p < .05	4	5	NS	4	8	NS
145. Do you sweat or tremble a lot during examinations or questioning?	15	14	p < .05	8	7	NS	23	21	NS

Table 75 continued

Question	FEMALES		MALES		TOTALS	
	No. answering "Yes" Hypoeh. Control N=22	p	No. answering "Yes" Hypoeh. Control N=28	p	No. answering "Yes" Hypoeh. Control N=50	p
146. Do you get nervous and shaky when approached by a superior?	18	NS	18	5	33	p < .05
147. Does your work fall to pieces when the boss or a superior is watching you?	12	p < .05	10	3	22	NS
151. Do strange people or places make you afraid?	11	NS	9	2	20	11 p < .05
152. Are you scared to be alone when there are no friends near you?	9	NS	7	1	16	11 NS
153. Is it always hard for you to make up your mind?	10	NS	15	5	25	20 NS
154. Do you wish you always had someone at your side to advise you?	12	NS	15	4	26	19 p < .05
155. Do you feel alone and sad at a party?	8	NS	9	3	17	9 p < .05
158. Do you usually feel unhappy and depressed?	11	NS	16	2	27	11 p < .001
160. Are you always miserable and blue?	10	NS	11	0	21	7 p < .001
161. Does life look entirely hopeless?	9	NS	12	1	21	10 p < .01

Table 75 continued

Question	FEMALES			MALES			TOTALS		
	No. answering "Yes"	No. answering "Yes"	No. answering "Yes"	No. answering "Yes"	No. answering "Yes"	No. answering "Yes"	Hypoeh. Control N=50	Control N=56	p
	Hypoeh. Control N=22	Hypoeh. Control N=34	Hypoeh. Control N=28	Hypoeh. Control N=22	Hypoeh. Control N=28	Hypoeh. Control N=50	Control N=56	p	
167. Does nervousness run in your family?	11	6	4	1	15	7	15	7	p < .05
174. Are your feelings easily hurt?	18	21	21	11	49	32	49	32	p < .05
182. Do little annoyances get on your nerves and make you angry?	15	13	15	6	30	19	30	19	p < .01
183. Does it make you angry to have anyone tell you what to do?	5	9	10	2	15	11	15	11	NS
184. Do people often annoy and irritate you?	11	8	14	5	25	13	25	13	p < .01
186. Do you often get into a violent rage?	3	1	5	1	8	2	8	2	p < .05
188. Are you constantly keyed up and jittery?	14	11	13	6	27	17	27	17	p < .05
189. Do sudden noises make you jump or shake badly?	15	20	15	4	30	24	30	24	NS
191. Do you become seared at sudden movements or noises at night?	11	14	9	2	20	16	20	16	NS
193. Do frightening thoughts keep coming back in your mind?	16	11	15	3	31	14	31	14	p < .001

Table 75 continued

Question	FEMALES		MALES		TOTALS	
	No. answering "Yes" Hypoeh. Control N=22	p	No. answering "Yes" Hypoeh. Control N=28	p	No. answering "Yes" Hypoeh. Control N=50	p
194. Do you often become suddenly scared for no good reason?	10	NS	15	$p < .001$	25	$p < .05$
195. Do you often break out in a cold sweat?	10	NS	8	$p < .05$	18	NS

Other Clinical Features

Certain clinical symptoms were sought which were often not reflected in the diagnosis although they might be included in the diagnostic formulation. These were conversion symptoms such as globus hystericus, aphonia and motor weakness and obsessional symptoms such as compulsive checking and obsessional thoughts or impulses.

The presence of depersonalization was also noted and this was defined as an altered experience of the self often expressed as a feeling of "unreality" or with phrases such as "I feel I am standing outside myself, looking at myself".

The frequency with which conversion symptoms occurred in the two groups is shown in Table 76. There were no patients with gross symptoms such as deafness, blindness or paralyses in the hypochondriacal sample and only one female control patient had a gross conversion symptom - a paralysis of the right arm.

Table 76 - Conversion Symptoms

	Hypochondriasis	Control	
Conversion symptoms present	60 (40.8%)	16 (24.6%)	76
No conversion symptoms	87 (59.2%)	49 (75.4%)	136
	147 (100%)	65 (100%)	212

$$\chi^2 = 4.46 \quad 1 \text{ df} \quad < p \quad 0.05$$

As is shown in Table 76 the incidence of conversion symptoms is significantly higher in hypochondriacal patients. Table 77 shows, however, that this difference is in the main due to the female patients

who report such symptoms more often.

Table 77 - Conversion Symptoms

	Female		Male		
	Hypochondriasis	Control	Hypochondriasis	Control	
Conversion symptoms present	41 (55.4%)	12 (30%)	19 (26%)	4 (16%)	76
No conversion symptoms	33 (44.6%)	28 (70%)	54 (74%)	21 (84%)	136
	74 (100%)	40 (100%)	73 (100%)	25 (100%)	

$$\chi^2 = 5.75 \quad 1 \text{ df} \quad p < 0.02 \quad \chi^2 = 0.56 \quad 1 \text{ df} \quad \text{n.s.}$$

Obsessional features were present in 22.4% of the hypochondriacal patients and 18.5% of the non-hypochondriacal sample. This difference was not significant, (Table 78).

Table 78 - Obsessional Features

	Hypochondriasis	Control	
Obsessional features	33 (22.4%)	12 (18.5%)	45
No obsessional features	114 (77.6%)	53 (81.5%)	167
	147 (100%)	65 (100%)	212

$$\chi^2 = 0.22 \quad 1 \text{ df} \quad \text{n.s.}$$

Considering the sexes separately Table 79 demonstrates that obsessional features were somewhat commoner in male hypochondriacal than control subjects, but this was not significant.

Table 79 - Obsessional Features

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Obsessional features present	15 (20.3%)	8 (20%)	18 (24.7%)	4 (16%)	45
No obsessional features	59 (79.7%)	32 (80%)	55 (75.3%)	21 (84%)	167
	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212
	not significant on inspection		$X^2 = 0.4$	1 df	n.s.

Depersonalization occurred with similar frequency in both the hypochondriacal and control patients (Table 80).

Table 80 - Depersonalization

	Hypochondriasis	Control	
Depersonalization	28 (19%)	11 (16.9%)	39
No depersonalization	119 (81%)	54 (83.1%)	173
	147 (100%)	65 (100%)	212
	$X^2 = 0.03$		1 df n.s.

The incidence of depersonalization in the two sexes is shown in Table 81. The frequencies for males are very similar, while more hypochondriacal females tend to report depersonalization.

Table 81 - Depersonalization

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
	Depersonalization	17 (23%)	7 (17.5%)	11 (15.1%)	
No depersonalization	57 (77%)	33 (82.5%)	62 (84.9%)	21 (84%)	173
	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212
	$\chi^2 = 0.2$ 1 df n.s.		$\chi^2 = 0.04$ 1 df n.s.		

A history of a suicidal attempt was present in 10.2% of the hypochondriacal patients and in 44.6% of the controls. As can be seen from Table 82 this finding is highly significant.

Table 82 - History of Suicidal Attempt

	Hypochondriasis	Control	
History of suicidal attempt	15 (10.2%)	29 (44.6%)	44
No history of suicidal attempt	132 (89.8%)	36 (55.4%)	168
	147 (100%)	65 (100%)	212
	$\chi^2 = 28.83$ 1 df $p < 0.001$		

These differences are found in both sexes and are significant (Table 83).

Table 83 - History of Suicidal Attempt

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
	History of suicidal attempt	9 (12.2%)	19 (47.5%)	6 (8.2%)	
No history of suicidal attempt	65 (87.8%)	21 (52.5%)	67 (91.8%)	15 (60%)	168
	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212
	$\chi^2 = 13.89$ 1 df $p < 0.001$		$\chi^2 = 11.54$ 1 df $p < 0.001$		

### Current Physical Illness

During the examination of the patient a careful search was made for evidence of physical illness, disability or deformity. The organic pathology was graded according to the following scheme:

- Grade 1: No evidence of organic pathology
- 2: Organic pathology present but expected to produce no symptoms or only mild ones, e.g. non toxic goitre, hare-lip, below-knee amputation with prosthesis
- 3: Moderate degree of organic pathology present but patients' functioning should be only slightly or temporarily impaired despite symptoms, e.g. peptic ulcer (non-active), mild hypertension, mild osteoarthritis
- 4: Severe organic pathology present. Patient should be able to engage in light activities, e.g. chronic bronchitis, with emphysema, angina

Table 84 shows the number of patients with various grades of organic pathology in the hypochondriacal and control groups. It is interesting that the vast majority of hypochondriacal patients had either no organic pathology or evidence of very mild pathology (grade 2). With regard to grade 2 and grade 3 pathology, there tend to be more hypochondriacal patients with the less serious grade 2 pathology and fewer with grade 3. The distribution for the female patients is shown in Table 85. It will be seen that the trend is very similar to that for the combined groups.

Table 84 - Organic Pathology

	Grading				
	1	2	3	4	
Hypochondriasis	103 (70.1%)	36 (24.5%)	6 (4.1%)	2 (1.4%)	147 (100%)
Control	48 (73.8%)	8 (12.3%)	9 (13.8%)	0	65 (100%)
Totals	151	44	15	2	212

$\chi^2 = 0.16$  1 df n.s.  
(groups 2 - 4 combined)

Table 85 - Organic Pathology in Females

	Grading				
	1	2	3	4	
Hypochondriasis	58 (78.4%)	13 (17.6%)	1 (1.4%)	2 (2.7%)	74 (100%)
Control	29 (72.5%)	4 (10%)	7 (17.5%)	0	40 (100%)
Totals	87	17	8	2	114

$\chi^2 = 0.2$  1 df n.s.  
(groups 2 - 4 combined)

The distribution in the case of the male subjects is shown in Table 86. The pattern is somewhat different to that of the females in that there are fewer hypochondriacal males with no pathology and more with grade 2 pathology.

Table 86 - Organic Pathology in Males

	Grading				
	1	2	3	4	
Hypochondriasis	45 (61.7%)	23 (31.5%)	5 (6.8%)	0	73 (100%)
Control	19 (76%)	4 (16%)	2 (8%)	0	25 (100%)
Totals	64	27	7	0	98

$\chi^2 = 1.1$  1 df n.s.  
(groups 2 - 4 combined)

Referral to Non-Psychiatric Consultants

Information was obtained concerning the patient's referral to non-psychiatric consultants during the course of the present illness (before referral to the Department of Psychiatry). Wherever possible the case-notes were studied. As can be seen from Table 87 hypochondriacal patients had seen significantly more non-psychiatric consultants. The figures have been grouped for the purpose of carrying out the statistical test. Only two control patients had seen more than one non-psychiatric consultant. Of these one had seen two and the other had consulted four.

Of the hypochondriacal patients, 17 had seen two consultants, 12 had seen three six patients had seen four, two had seen five and one patient had been to six non-psychiatric departments before referral.

Table 87 - Referral to non-Psychiatric Consultants

	Number of Consultants			
	0	1	2 +	
Hypochondriacal	53 (36.1%)	56 (38.1%)	38 (25.8%)	147 (100%)
Control	44 (67.7%)	19 (29.2%)	2 (3.1%)	65 (100%)
Totals	97	75	40	212

$$\chi^2 = 23.25 \quad 2 \text{ df} \quad p < 0.001$$

Interestingly, female hypochondriacal patients were more likely than males to have been referred to the Psychiatric Department without previous referral to other departments (45.9% as opposed to 26%). Both female and male hypochondriacal patients saw significantly more non-psychiatric consultants than the controls, (Tables 88 and 89).

Table 88 - Referral to non-Psychiatric Consultants: Females

	Number of Consultants			
	0	1	2 +	
Hypochondriasis	34 (45.9%)	21 (28.4%)	19 (25.6%)	74 (100%)
Control	23 (57.5%)	15 (37.5%)	2 (5%)	40 (100%)
Totals	57	36	21	114

$\chi^2 = 7.4$  2 df p < 0.05

Table 89 - Referral to Non-Psychiatric Consultants: Males

	Number of Consultants			
	0	1	2 +	
Hypochondriasis	19 (26%)	35 (46.1%)	19 (26%)	73 (100%)
Control	21 (84%)	4 (16%)	0	25 (100%)
Totals	40	39	19	98

$\chi^2 = 20.76$  2 df p < 0.001

History of Surgical Operations for Present Complaint

None of the control patients had been operated on during the course of the illness for the complaints which had caused them to be referred to the Department of Psychiatry. There were only six subjects among the hypochondriacal patients who had been operated on - three males and three females. In the case of the males the operations were a tonsillectomy, an appendicectomy and a gastrectomy. Of the females one subject had had a tonsillectomy and two had undergone a hysterectomy.

History of Surgical Operations Unrelated to Present Complaint

The number of patients in each group who had undergone operations unrelated to their current physical complaints is shown in Table 90. The differences between the hypochondriacal and control patients is not significant but there seems to be a trend for hypochondriacal patients to have had fewer operations.

Table 90 - Surgical Operations Unrelated to Present Complaint

	Number of Operations			
	0	1	2 +	
Hypochondriacal	92 (62.5%)	33 (22.4%)	22 (15%)	147
Control	33 (50.8%)	23 (35.4%)	9 (13.8%)	65
Totals	125	56	31	212

$$\chi^2 = 3.96 \quad 2 \text{ df} \quad \text{n.s.}$$

Examination of the figures for the two sexes (Tables 91) shows that the same trend is present in both although perhaps more definite in the case of male patients.

Table 91 - Surgical Operation Unrelated to Present Complaining (by Sex)

Number of Operations	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
	0	46 (62.2%)	22 (55%)	46 (63%)	
1	15 (20.3%)	12 (30%)	18 (24.7%)	11 (44%)	56
2+	13 (17.6%)	6 (15%)	9 (12.3%)	3 (12%)	31
Totals	74	40	73	25	212

$$\chi^2 = 1.36 \quad 2 \text{ df} \quad \text{n.s.} \quad \chi^2 = 3.5 \quad 2 \text{ df} \quad \text{n.s.}$$

History of a Previous Psychiatric Illness

Only illnesses which led to psychiatric treatment were included in this category. As can be seen from Table 92 a history of previous psychiatric treatment was much commoner in the control group of patients. The difference is highly significant.

Table 92 - History of Previous Psychiatric Illness

	Hypochondriasis	Control	
History of previous psychiatric illness	22 (15%)	24 (36.9%)	46
No history of previous psychiatric illness	125 (85%)	41 (63.1%)	166
Totals	147 (100%)	65 (100%)	212

$\chi^2 = 11.53$  1 df  $p < 0.001$

This finding is present in both sexes but significant only in the females (Table 93).

Table 93 - History of Previous Psychiatric Illness (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
History of previous psychiatric illness	12 (16.4%)	6 (24%)	10 (13.5%)	18 (45%)	46
No history of previous psychiatric illness	61 (83.6%)	19 (76%)	64 (86.5%)	22 (55%)	166
Totals	73 (100%)	25 (100%)	74 (100%)	40 (100%)	212

$\chi^2 = 12.25$  1 df  $p < 0.001$      $\chi^2 = 0.295$  1 df n.s.

### Premorbid Personality

Personality is an entity which is notoriously difficult to assess. For the purposes of this study specific prominent "life-long" traits were sought. These are listed and defined below.

1. Hypochondriacal: Subjects with this trait showed a life-long tendency to overconcern with their bodily functions and the rapid development of anxiety over any bodily disorder, however slight or transient. They tended to seek in themselves evidence of diseases which they had read or heard about.
2. Anxiety prone: This was defined as a tendency to over-react with psychological and somatic symptoms of fear and tension to objectively minor stresses.
3. Obsessional: Subjects showing this trait were overconscientious, routine-loving, meticulous, often house-proud individuals with a tendency to adhere rigidly to high moral standards.
4. Schizoid: Such personalities described difficulty in forming or maintaining interpersonal relationships. They tended to be solitary individuals who rarely communicated their thoughts or feelings to others.
5. Paranoid: These subjects tended to feel that others were unfriendly towards them and often thought that laughter or whispered conversation might be directed at them. This trait often co-exists with schizoid personality characteristics.
6. Aggressive: The presence of aggressive traits in the personality was recorded if the patient had a history of being markedly self-assertive

and reluctant to compromise in differences with other people. A history of physical aggression was particularly indicative of this trait.

7. Submissive: These personalities tended to be passive and long-suffering in their relationship with others. They avoided arguments at any cost and frequently accepted the opinions of others even though they were inwardly convinced that they were in the right.
8. Hysterical: These patients tended to be hysterical in their manner and their behaviour could often be described as "attention-seeking" with over-dramatic description and even enactment of their suffering and symptomatology. They tended to be suggestible and showed frequent changes of affect and attitude during a conversation, regardless of how deeply felt or strongly held these affects and attitudes superficially appeared.
9. Cyclothymic: These subjects reported phasic changes of mood with a tendency to be either rather subdued and depressed or jolly and overactive but rarely, if ever, neutral.
10. Emotionally Unstable: This trait was characterised by outbursts of temper or sulking in the face of frustration or the necessity to postpone immediate gratification of needs. There was also a tendency to show uncontrolled emotions of any sort in response to minor stimuli.
11. Sensitive: This personality trait was used in the sense described by Schneider (1958). These patients are troubled by feelings of insecurity, uncertainty and inferiority. They are often concerned

about their physical appearance, social status and the opinions which others have of them. They are easily upset, but have great difficulty in expressing their feelings.

The above traits were in no way mutually exclusive. The frequency with which they were encountered in the hypochondriacal and control patients is shown in Table 94.

Table 94 - Premorbid Personality

Personality Trait	Hypochondriasis N = 147	Control N = 65	Chi Square Value	Significance
Obsessional	117 (79.6%)	48 (73.8%)	0.56	n.s.
Anxiety-prone	113 (76.9%)	31 (47.7%)	16.3	p < 0.001
Hypochondriacal	87 (59.2%)	2 (3.1%)	55.97	p < 0.001
Sensitive	67 (45.6%)	26 (40%)	0.37	n.s.
Paranoid	37 (25.2%)	11 (16.9%)	1.31	n.s.
Submissive	36 (24.5%)	19 (29.2%)	0.31	n.s.
Schizoid	27 (18.4%)	7 (10.8%)	1.41	n.s.
Hysterical	22 (15%)	10 (15.4%)	0.006	n.s.
Aggressive	17 (11.6%)	6 (9.2%)	0.07	n.s.
Emotionally Unstable	15 (10.2%)	15 (23.1%)	5.13	p < 0.05
Cyclothymic	11 (7.5%)	16 (24.6%)	10.41	p < 0.01

As can be seen, the commonest personality traits encountered in the hypochondriacal patients were the obsessional, anxiety prone, hypochondriacal and sensitive. The hypochondriacal patients differed significantly from the control patients with regard to four traits: they tended to manifest anxiety proneness and hypochondriacal traits more often; while

emotional instability and cyclothymic traits tended to be present less often. Tables 95 and 96 show the detailed findings for the two sexes.

Table 95 - Premorbid Personality: Females

Personality Trait	Hypochondriasis N = 74	Control N = 40	Chi Square Value	Significance
Obsessional	59 (79.7%)	30 (75%)	0.06	n.s.
Anxiety-prone	60 (81.1%)	22 (55%)	7.5	p < 0.01
Hypochondriacal	38 (51.4%)	0	28.54	p < 0.001
Sensitive	37 (50%)	21 (52.2%)	0.003	n.s.
Paranoid	15 (20.3%)	8 (20%)	0.001	n.s.
Submissive	16 (21.6%)	14 (35%)	4.9	p < 0.05
Schizoid	6 (8.1%)	3 (7.5%)	numbers too small	
Hysterical	19 (25.7%)	9 (22.5%)	0.02	n.s.
Aggressive	6 (8.1%)	2 (5%)	numbers too small	
Emotionally Unstable	11 (14.9%)	10 (25%)	1.16	n.s.
Cyclothymic	8 (10.8%)	11 (27.5%)	4.07	p < 0.05

Table 96 - Premorbid Personality: Males

Personality Trait	Hypochondriasis N = 73	Control N = 25	Chi Square Value	Significance
Obsessional	58 (79.5%)	18 (72%)	0.24	n.s.
Anxiety-prone	53 (72.7)	9 (36%)	9.22	p < 0.01
Hypochondriacal	49 (67.1%)	2 (8%)	23.77	p < 0.001
Sensitive	30 (41.1%)	5 (20%)	2.7	n.s.
Paranoid	22 (30.1%)	3 (12%)	2.34	n.s.
Submissive	20 (27.4%)	5 (20%)	0.22	n.s.
Schizoid	21 (28.8%)	4 (16%)	0.1	n.s.
Hysterical	3 (4.1%)	1 (4%)	Numbers too small	
Aggressive	11 (15.1%)	4 (16%)	"	" "
Emotionally Unstable	4 (5.5%)	5 (20%)	"	" "
Cyclothymic	3 (4.1%)	5 (20%)	"	" "

Significance has not been calculated where numbers are too small (expected frequency less than five in at least one cell). From Table 95 it can be seen that hypochondriacal females differ significantly from the female controls in being more anxiety-prone, more hypochondriacal but less submissive and less cyclothymic. Although the findings are not significant they show the same trend as the sexes combined in being less emotionally unstable. With regard to other personality traits, there is a striking similarity between the hypochondriacal and control females.

In the case of the male patients (Table 96) the hypochondriacal

subjects are once again more anxiety-prone and show hypochondriacal traits more often in their premorbid personality. They are also less emotionally unstable and less cyclothymic but not at a statistically significant level. Unlike the females they tend to be more submissive but this is not striking and does not achieve statistical significance.

Family History of Psychiatric Illness

A number of facts were sought concerning the patients' parents and siblings, in order to establish any history of an illness requiring psychiatric treatment and any evidence of hypochondriacal phenomena. The latter was, of course, not easy for the patient to assess but he was asked to say whether the parent or sibling was very concerned about questions of health and disease in themselves. Parents who were described as "keep-fit" enthusiasts and who ate special foods or took tonics and other patent medicines were included in this category.

The numbers reporting a family history of psychiatric illness did not differ markedly in the hypochondriacal and control groups and is shown in Table 97.

Table 97 - Family History of Psychiatric Illness

	Hypochondriasis	Control	
Family History of Psychiatric Illness	42 (28.6%)	16 (24.6%)	58
No Family History of Psychiatric Illness	105 (71.4%)	49 (75.4%)	154
Totals	147 (100%)	65 (100%)	212

$\chi^2 = 0.18$  1 df n.s.

When the figures for males and females are examined separately there seems to be a tendency for male hypochondriacal patients to report more family psychiatric illness (Table 98) but this does not achieve significance.

Table 98 - Family History of Psychiatric Illness (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Family History of Psychiatric Illness	19 (25.7%)	12 (30%)	23 (31.5%)	4 (16%)	58
No Family History of Psychiatric Illness	55 (74.3%)	28 (70%)	50 (68.5%)	21 (84%)	154
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

$\chi^2 = 0.08$  1 df n.s.       $\chi^2 = 1.53$  1 df n.s.

The number of patients with hypochondriacal fathers is shown in Table 99. As can be seen, more of hypochondriacal patients tend to regard their fathers as hypochondriacal but not to a statistically significant degree.

Table 99 - Hypochondriasis in Fathers

	Hypochondriasis	Control	
Father hypochondriacal	16 (10.9%)	3 (4.6%)	19
Father not hypochondriacal	131 (89.1%)	62 (95.4%)	193
Totals	147 (100%)	65 (100%)	212

$\chi^2 = 1.47$  1 df n.s.

The same pattern is present in the case of the male and female subjects when examined separately (Table 100).

Table 100 - Hypochondriasis (by Sex of Patient) - in Fathers

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Father hypochondriacal	8 (10.8%)	2 (5%)	8 (11%)	1 (4%)	19
Father not hypochondriacal	66 (89.2%)	38 (95%)	65 (89%)	24 (96%)	193
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

Numbers too small for test of significance

Hypochondriasis in mothers was reported by 24.5% of hypochondriacal patients and 16.9% of the control patients. (Table 101)

Table 101 - Hypochondriasis in Mothers

	Hypochondriasis in Mothers		
	Hypochondriasis	Control	
Mother hypochondriacal	36 (24.5%)	11 (16.9%)	47
Mother not hypochondriacal	111 (75.5%)	54 (83.1%)	165
Totals	147 (100%)	65 (100%)	212

$$\chi^2 = 1.09 \quad 1 \text{ df} \quad \text{n.s.}$$

When figures for males and females are examined separately, (Table 102) there seems to be a tendency for the mothers of female hypochondriacal patients to be reported as being hypochondriacal more often than the mothers of control females. On the other hand, there is very little difference in this regard between the male hypochondriasis and control groups.

Table 102 - Hypochondriasis in Mothers (by Sex of Patient)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Mother hypochondriacal	23 (31.1%)	7 (17.5%)	13 (17.8%)	4 (16%)	47
Mother not hypochondriacal	51 (68.9%)	33 (82.5%)	60 (82.2%)	21 (84%)	165
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

$\chi^2 = 1.8$  1 df n.s. Numbers too small

Prolonged exposure to illness in parents or siblings during childhood was reported significantly less often by the hypochondriacal patients (Table 103).

Table 103 - Prolonged Exposure to Illness in Parent or Sibling

	Hypochondriasis	Control	
Prolonged exposure to illness in parent or sibling	23 (15.6%)	22 (33.8%)	45
No prolonged exposure to illness in parent or sibling	124 (84.4%)	43 (66.2%)	167
Totals	147 (100%)	65 (100%)	212

$\chi^2 = 7.87$  1 df  $p < 0.01$

This pattern was present in both the male and female subjects. The difference does not attain statistical significance in the case of the females and the frequencies are too small for testing in the males (Table 104).

Table 104 - Prolonged Exposure to Illness in Parent or Sibling  
(by Sex of Patient)

	Females		Males		
	Hypochondriacal Control	Hypochondriasis Control	Hypochondriacal Control	Hypochondriasis Control	
	Prolonged exposure to illness in parent or sibling	14 (18.9%)	13 (32.5%)	9 (12.3%)	
No prolonged exposure to illness in parent or sibling	60 (81.1%)	27 (67.5%)	64 (87.7%)	16 (64%)	167
Totals	74 (100%)	40 (100%)	73 (100%)	25 (100%)	212

$\chi^2 = 1.95$  1 df n.s. Numbers too small

Personal History

In examining the personal histories of these subjects particular attention has been given to those experiences which have generally been considered as important in the aetiology of hypochondriasis, such as over-solicitous parents and periods of illness. Other data which was not directly related to the problem of hypochondriasis was collected with the purpose of obtaining a more complete profile of the patients who comprise the sample. The details of criteria employed are given together with the findings in each section.

Number of Siblings

Only full brothers and sisters were considered when arriving at the number of siblings which does not, of course, include the patient. The results are shown in Table 105. As can be seen there is a tendency for hypochondriacal patients to have more siblings than the control

patients.

Table 105 - Number of Siblings

	Number of Siblings										
	0	1	2	3	4	6	6	7	8	9+	
Hypochondriasis	13	18	21	24	23	18	12	4	5	9	147
Control	7	20	10	7	4	4	6	2	1	4	65
Totals	20	38	31	31	27	22	18	6	6	13	212

$$\chi^2 = 14.74 \quad 7 \text{ df} \quad p < 0.05$$

(patients with seven or more siblings have been grouped)

Although the same trend is present in both male and female patients it is significant only in the case of the females (Tables 106 and 107).

Table 106 - Number of Siblings of Female Patients

	Number of Siblings							
	0	1	2	3	4	5	6+	
Hypochondriasis	6	9	11	14	9	11	14	74
Control	5	14	5	3	2	3	8	40
Totals	11	23	16	17	11	14	22	114

$$\chi^2 = 11.34 \quad 4 \text{ df} \quad p < 0.05$$

(groups 0 - 1 and 4 - 5 have been grouped)

Table 107 - Number of Siblings in Male Patients

	Number of Siblings							
	0	1	2	3	4	5	6+	
Hypochondriasis	7	9	10	10	14	7	16	73
Control	2	6	5	4	2	1	5	25
	24		29		24		21	98

$$\chi^2 = 3.41 \quad 3 \text{ df} \quad \text{n.s.}$$

(groups 0-1, 2-3 and 4-5 have been grouped)

Position in Sibship

Patients were categorized according to whether they were the only, eldest or youngest child in the family. The proportions of patients in each of these positions is shown in Table 108.

Table 108 - Position in Sibship

	Position				
	Only Child	Eldest	Youngest	Other	
Hypochondriasis	13 (8.8%)	32 (21.8%)	36 (24.5%)	66 (44.9%)	147
Control	7 (10.8%)	19 (29.2%)	13 (20%)	26 (40%)	65
	20	51	49	92	212

$$\chi^2 = 1.86 \quad 3 \text{ df} \quad \text{n.s.}$$

There is clearly a close similarity between the hypochondriacal and control patients with regard to ordinal position. When the figures for the female patients are examined (Table 109) there appears to be a tendency for more hypochondriacal females to be youngest children and for fewer to be eldest. This does not, however, attain statistical significance.

The males do not show any striking difference between the hypochondriacal and control patients (Table 110).

Table 109 - Position in Sibship: Females

	Position				
	Only Child	Eldest	Youngest	Other	
Hypochondriasis	6 (8.1%)	14 (18.9%)	21 (28.4%)	33 (44.6%)	74
Control	5 (12.5%)	11 (27.5%)	7 (17.5%)	17 (42.5%)	40
	11	25	28	50	114

$\chi^2 = 2.66$  2 df n.s.

(only children and eldest children grouped)

Table 110 - Position in Sibship: Males

	Position				
	Only Child	Eldest	Youngest	Other	
Hypochondriasis	7 (9.6%)	18 (24.7%)	15 (20.5%)	33 (45.2%)	73
Control	2 (8%)	8 (32%)	6 (24%)	9 (36%)	98
	9	26	21	42	98

$\chi^2 = 0.64$  2 df n.s.

(only children and eldest children grouped)

Childhood stress was considered to have been present if the patient experienced a home (before the age of 16 years) in which separation from either or both parents had occurred for more than six months due to death, divorce or illegitimacy; where there was a history of extreme poverty, alcoholism in a parent, open quarrelling or violence between parents. All such stresses have been grouped under one heading but in

addition the permanent separation through death or divorce from a parent before the patient was 16 years old has been noted and is considered separately.

Of the hypochondriacal patients 46.3% reported childhood stress. A proportion very similar to that of the control patients (47.7%). The actual numbers are shown in Table 111.

Table 111 - Childhood Stress

	Hypochondriasis	Control	
Childhood stress	68 (46.3%)	31 (47.7%)	99
No childhood stress	79 (53.7%)	34 (52.3%)	113
Totals	147	65	212

$$\chi^2 = 0.002 \quad 1 \text{ df} \quad \text{n.s.}$$

The proportions reporting childhood stress in the female and male hypochondriacal groups (Table 112) do not differ significantly from the controls although it is of interest that, while fewer hypochondriacal males reported childhood stress than controls, more of the hypochondriacal females did so than the controls.

Table 112 - Childhood Stress (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Childhood stress	39 (52.7%)	19 (47.5%)	29 (39.7%)	12 (48%)	99
No childhood stress	35 (47.3%)	21 (52.5%)	44 (60.3%)	13 (52%)	113
	74	40	73	25	212

$$\chi^2 = 0.11 \quad 1 \text{ df} \quad \text{n.s.} \quad \chi^2 = 0.002 \quad 1 \text{ df} \quad \text{n.s.}$$

Permanent separation from father before the age of 16 years occurred in 12.9% of hypochondriacal patients and 17% of the controls (Table 113). The difference is not significant. The figures for each sex are shown in Table 114.

Table 113 - Loss of Father before 16 Years of Age

	Hypochondriasis	Control	
Loss of father	19 (2.9%)	11 (17%)	30
No loss of father	128 (81.1%)	54 (83%)	182
	147	65	212

$\chi^2 = 0.31$  1 df n.s.

Table 114 - Loss of Father before 16 Years of Age (by Sex of Patient)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Loss of father	10 (13.5%)	7 (17.5%)	9 (12.3%)	4 (16%)	30
No loss of father	64 (86.5%)	33 (82.5%)	64 (87.7%)	21 (84%)	182
	74	40	73	25	212

$\chi^2 = 0.09$  1 df n.s. Numbers too small

Permanent separation from mother occurred in four (5.4%) of the hypochondriacal females and four of the hypochondriacal males (5.5%). It occurred in 15% of the female controls and 8% of the males. As the frequencies were small only the differences between the sexes combined could be tested statistically and they did not reach significance (Table 115).

Table 115 - Loss of Mother

	Hypochondriacal	Control	
Loss of Mother	8 (5.4%)	8 (12.4%)	16
No loss of Mother	139 (94.6%)	57 (87.6%)	196
Totals	147	65	212
	$\chi^2 = 2.14$ 1 df n.s.		

Childhood Health

An attempt was made to assess the patient's health as a child, i.e. under 16 years of age. Information was not only sought concerning actual illnesses and stays in hospital but also whether the patients had for some reason been considered "delicate" as children. This was often volunteered spontaneously by the patients who described themselves as "weak" and "delicate" children who were often described as such by their parents and relatives. In addition to this patients were asked whether either or both of their parents had tended to be consistently solicitous and protective towards them to a degree which might be considered excessive. Parents falling into this category were, for example, very concerned to protect their children against the cold and frequently bought patent medicines and tonics to "strengthen" them or to prevent constipation or "debility". Such parents also tended to warn their children against activities which could be injurious to their health, and consulted the family doctor at the slightest concern. Patients were also asked whether they had experienced any prolonged illness which prevented them from taking part in normal activities for at least six

weeks. Any stay in hospital for longer than two weeks was noted and patients were asked whether they had ever been told by a doctor that they had some "permanent" organic pathology such as a "leaky valve" or a "weak bladder".

Considered "Delicate" during Childhood

Of the hypochondriacal patients 29.3% reported that they were "delicate" children who were always "under the weather" and considered "weak". This proportion was significantly higher than that in the control group.

Table 116 - Considered a "Delicate" Child

	Hypochondriasis	Control	
Considered "delicate"	43 (29.3%)	8 (12.3%)	51
Not considered "delicate"	104 (70.7%)	57 (87.7%)	161
	147	65	212
	$\chi^2 = 6.19 \quad 1 \text{ df} \quad p < 0.02$		

Both male and female hypochondriacal patients reported significantly more often than the controls that they were "delicate" in childhood, (Table 117). The difference is more striking and more significant in the case of the male patients.

Table 117 - Considered a "delicate" Child (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Considered "Delicate"	28 (37.8%)	7 (17.5%)	15 (20.5%)	1 (4%)	51
Not considered "Delicate"	46 (62.2%)	33 (82.5%)	58 (79.5%)	24 (96%)	161
	74	40	73	25	212

$\chi^2 = 4.14$  1 df  $p < 0.05$      $\chi^2 = 26.2$  1 df  $p < 0.001$

Overprotective and oversolicitous parents were also reported by more hypochondriacal than control patients. In this case, however, the difference, although approaching significance, did not reach the conventional 5% level. The findings for the sexes combined are shown in Table 118 and for each sex in Table 119.

Table 118 - "Overprotected" in Childhood

	Hypochondriasis	Control	
"Overprotected" in childhood	31 (21.1%)	6 (9.2%)	37
Not "overprotected" in childhood	116 (78.9%)	59 (90.8%)	175
	147	65	212

$\chi^2 = 3.61$  1 df n.s.

Table 119 - "Overprotected" in Childhood (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Overprotected in childhood	16 (21.6%)	4 (10%)	15 (20.5%)	2 (8%)	37
Not overprotected in childhood	58 (78.4%)	36 (90%)	58 (79.5%)	23 (92%)	175
	74	40	73	25	212
	$\chi^2 = 1.7$ 1 df n.s.		$\chi^2 = 1.26$ 1 df n.s.		

Only nine (12.2%) of the hypochondriacal females and five (6.8%) of the hypochondriacal males reported having been told that they suffered from some permanent organic pathology. This did not differ significantly from the control patients in whose case five (12.5%) of the females and one (4%) of the males reported a doctor telling them that they had a defect which was permanent. In no case was any evidence of the supposed defect found by the author. In the case of the hypochondriacal males three were told that they had weak hearts and two that they had "weak chests". Of the hypochondriacal females five were told that they had "weak hearts", in two cases with "leaky valves", two were told that they had "weak bladders" and two that they had "weak chests".

Experience of Prolonged or Frequent Illness in Childhood

"Prolonged or frequent illness" was defined as physical illness which prevented normal activities for at least six weeks or a history of frequent possibly relatively minor illness which caused absence from school such that over a period of at least six months the patient never

spent more than 14 consecutive days at school.

With regard to the experience of illness as defined here the hypochondriacal patients did not differ significantly from the controls. If anything, such experiences were less frequently reported by the hypochondriacal patients (Table 120).

Table 120 - Prolonged or Frequent Illness in Childhood

	Hypochondriasis	Control	
Prolonged or frequent illness in childhood	21 (14.3%)	12 (18.5%)	33
No prolonged or frequent illness in childhood	126 (85.7%)	53 (81.5%)	179
	147	65	212
	$\chi^2 = 0.32$ 1 df n.s.		

Scrutiny of the figures for males and females taken separately suggests that male hypochondriacal patients tend to report fewer such experiences of illness than the male controls (Table 121).

Table 121 - Prolonged or Frequent Illness in Childhood (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Prolonged or frequent illness	14 (18.9%)	8 (20%)	7 (9.6%)	4 (16%)	33
No prolonged or frequent illness	60 (81.1%)	32 (80%)	66 (90.4%)	21 (84%)	179
	74	40	73	25	212
	$\chi^2 = 0.02$ 1 df n.s.		$\chi^2 = 0.26$ 1 df n.s.		

Experience of Hospitalization in Childhood

Patients were asked whether they had ever been in hospital during their childhood (i.e. before the age of 16 years).

Of the hypochondriacal patients seven males and four females had been in hospital before the age of 16 years. Of the females one patient had spent three weeks in hospital, two had spent six weeks and one had been in six months for the treatment of pulmonary tuberculosis.

Two of the males had been in two weeks, one for four weeks, one for six weeks, one for seven weeks, one for three months and one for six months.

In the case of the control patients, one female had been in hospital for three weeks, one for four weeks, two for nine weeks and one for six months. Of the male controls one had been in for two weeks, one for six weeks, one for three months and two for six months.

Patients were grouped into those who had a hospital experience in childhood and those who had not. As the numbers were small the male and female figures have been combined (Table 122).

Table 122 - Hospitalized during Childhood

	Hypochondriasis	Control	
Hospitalized in childhood	11 (7.5%)	9 (13.8%)	20
Not hospitalized in childhood	136 (92.5%)	56 (86.2%)	192
	147	65	212
	$\chi^2 = 1.46 \quad 1 \text{ df} \quad \text{n.s.}$		

### Occupational Adjustment and Intelligence

The social class of patients based on their occupation has been discussed. Patients were also categorized - as previously described - on the basis of their occupational history, as to whether they had a stable or unstable job record. It was found possible to do this only in the case of the male patients since most of the female patients were housewives and had not worked since marriage.

Of the 73 male hypochondriacal patients only twelve had ever held any job for less than five years and of these nine had shown a tendency to instability in their work record. Of the non-hypochondriacal males only three subjects had held jobs for less than five years and of these one had an instable work record. Thus 12.3% of the hypochondriacal males and 4% of the controls showed job instability. The actual numbers were too small for a Chi Square test to be applied but would suggest that occupational instability might be commoner in hypochondriacal patients.

Intelligence was assessed using the Mill Hill Vocabulary Scale, Form 1 Senior. The scale was completed by all the control subjects and by 50 consecutive hypochondriacal patients (25 female-25 male). The total scores obtained in the test were converted into percentile grades with the use of the Guide to the Mill Hill Vocabulary Scale (Raven 1958). Thus Grade I or "verbally superior" includes subjects with scores at or above the 95th percentile for persons of their age group; Grade II or "definitely above average in verbal ability" includes subjects with a score at or above the 75th percentile; Grade II+ includes scores above the 90th percentile; Grade III or "verbally average" includes scores

between the 25th and 75th percentiles; (Grade III+: scores above the 50th percentile or median and Grade III-: scores below 50th percentile); Grade IV or "definitely below average in verbal ability" includes scores at or below the 25th percentile (Grade IV- if scores are at or below the 10th percentile) and Grade V or "verbally defective" refers to scores below 5th percentile.

The numbers in each grade are shown in Table 123.

Table 123 - Verbal Intelligence

Mill Hill Vocabulary Scale: Percentile Grades

	I	II	III+	III-	IV	IV-	V	
Hypochondriasis	1	4	1	23	19	2	0	50
Control	2	7	4	31	21	0	0	65
	3	11	5	54	40	2	0	115

For the purposes of carrying out a Chi Square test patients with grades above the median, i.e. in Grades I to III+ were grouped in one category and patients below the median (Grades III- to V) in a separate category. There was no significant difference between the hypochondriacal and control patients ( $X^2 = 0.79$ , 1 df, n.s.) although it is of interest to note that 20% of the control patients were graded above the median, as opposed to 12% of the hypochondriacal patients. This difference is more marked when the data for female patients are considered separately (Table 124).

Table 124 - Verbal Intelligence (by Sex)

Percentile Grades	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
I to III+	1 (4%)	7 (17.1%)	5 (20%)	6 (25%)	19
III- to V	24 (96%)	34 (82.9%)	20 (80%)	18 (75%)	96
	25	41	25	24	115
	Numbers too small		Not significant on inspection		

Marital Adjustment

The civil state of the hypochondriacal and control patients is shown in Table 41. Of the hypochondriacal sample, 22 patients (15%) had never been married; 116 (78.9%) were married and 9 (6.1%) were widowed, divorced or separated. Of the control sample there were 51 (78.5%) married, 4 (6.2%) single and 10 (15.4%) widowed, divorced or separated. Thus a larger proportion of the hypochondriacal patients were single and this excess consists mainly of men, of whom 21.9% were single as opposed to 8% in the control male sample.

Size of Family

As previously mentioned, only living children were considered in recording the size of the patient's family. The findings for the hypochondriacal and control patients is shown in Table 125. Although the two samples do not differ significantly there would seem to be a tendency for hypochondriacal patients to have smaller families. In particular the differences show up when families of two or fewer children

are considered. Thus 17.6% of the hypochondriacal patients have no children while 8.3% of the control group are childless. On the other hand 40% of the control patients have two children as opposed to 22.4% of the hypochondriacal sample. It is of interest to examine the findings for male and female patients separately (Tables 126 and 127).

Table 125 - Size of Family (excluding single patients)

	Number of children					
	0	1	2	3	4+	
Hypochondriacal	22 (17.6%)	44 (35.2%)	28 (22.3%)	19 (15.2%)	12 (9.6%)	125
Control	5 (8.3%)	15 (25%)	24 (40%)	11 (18.3%)	5 (8.3%)	60
	27	59	52	30	17	185

$\chi^2 = 8.49$  4 df n.s.

Table 126 - Size of Family: Females (excluding single patients)

	Number of children				
	0	1	2	3+	
Hypochondriacal	10 (14.7%)	25 (36.8%)	13 (19.1%)	20 (29.4%)	68
Control	4 (10.8%)	10 (28.6%)	14 (37.8%)	9 (24.3%)	37
	14	35	27	29	105

$\chi^2 = 4.44$  3 df n.s.

Table 127 - Size of Family: Males (excluding single patients)

	Number of children				
	0	1	2	3+	
Hypochondriacal	12 (21.2%)	19 (33.3%)	15 (26.3%)	11 (19.3%)	57
Control	1 (4.3%)	5 (21.7%)	10 (43.5%)	7 (30.4%)	23
	13	24	25	18	80

$\chi^2 = 6.0$  3 df n.s.

The association between hypochondriacal illness and small family size is more striking in the male patients although statistical significance is not reached. Of particular interest is the finding that only one male in the control group is childless, while there are twelve (21.1%) such patients in the hypochondriacal sample.

Marital Disharmony was considered to be present if the patient (or spouse) described himself as seriously unhappy or dissatisfied in his marriage, if there were frequent arguments and occasional violence and a history of separations. Only marital disharmony which was related to the present marriage was considered. Disharmony which had been present more than one year previous to the onset of symptoms was not taken into account. Patients who had divorced or separated before that time were excluded.

As can be seen from Table 128, the hypochondriacal patients reported significantly less marital disharmony. The males and females taken separately show the same trend but the differences do not attain significance (Table 129).

Table 128 - Marital Disharmony

	Hypochondriasis	Control	
Marital disharmony	28 (24.1%)	22 (43.1%)	50
No marital disharmony	88 (75.9%)	29 (56.9%)	117
Totals	116	51	167

$\chi^2 = 5.2$  1df  $p < 0.05$

Table 129 - Marital Disharmony (by Sex of Patient)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Marital disharmony	17 (28.3%)	14 (46.7%)	11 (19.6%)	8 (38.1%)	50
No marital disharmony	43 (71.7%)	16 (53.3%)	45 (80.4%)	13 (61.9%)	117
	60	30	56	21	167

$\chi^2 = 2.22$  1 df n.s.     $\chi^2 = 1.89$  1 df n.s.

Sexual Adjustment

In assessing sexual adjustment patients were asked whether they gained satisfaction from sexual relations (and in particular sexual intercourse) with persons of the opposite sex. This question was asked in relation to the current illness and also in relation to their adjustment before the present illness.

From the data in Table 130 it can be seen that hypochondriacal patients were less well adjusted sexually. The male patients generally complained of a lack of libido due to tiredness, which was often related to depression, but the female patients tended to describe sexual intercourse as a disgusting activity which had never interested them.

Table 130 - Sexual Adjustment

	Hypochondriasis	Control	
Poor sexual adjustment	72 (46.3%)	18 (27.8%)	90
Good sexual adjustment	75 (53.7%)	47 (72.2%)	122
	147	65	212

$\chi^2 = 7.5$  1 df  $p < 0.01$

The male hypochondriacal patients were more often poorly adjusted from the sexual point of view than the controls but the difference does not attain statistical significance as it does in the case of the females (Table 131).

Table 131 - Sexual Adjustment: Female and Male

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Poor sexual adjustment	44 (59.4%)	14 (35%)	28 (38.3%)	4 (16%)	90
Good sexual adjustment	30 (40.6%)	26 (65%)	45 (61.7%)	21 (84%)	122
	74	40	73	25	212

$\chi^2 = 5.28$  1 df  $p < 0.05$   $\chi^2 = 3.28$  1 df n.s.

Dysmenorrhoea

Female patients were questioned as to the amount of discomfort which they generally had with their periods. Post menopausal women were asked to describe the situation in retrospect. Dysmenorrhoea was graded as follows: in the case of female patients the amount of dysmenorrhoea

which the patient usually experienced was noted. The degree of dysmenorrhoea was graded as "0" if absent, grade "1" if mild, and not requiring any measures to be taken by the patient, grade "2" if the patient needed to take analgesics and grade "3" if the patient needed to go to bed at any time during the menstrual period. The numbers of hypochondriacal and control females with various grades of dysmenorrhoea is shown in Table 132. There is a significant association between the hypochondriacal patients and the severer grades of dysmenorrhoea.

Table 132 - Dysmenorrhoea

	Grade				
	0	1	2	3	
Hypochondriasis	42 (56.8%)	9 (12.2%)	10 (13.5%)	13 (17.6%)	74
Control	25 (62.5%)	10 (25%)	2 (5%)	3 (7.5%)	40
Totals	67	19	12	16	114

$$\chi^2 = 6.36 \quad 2 \text{ df} \quad p < 0.05$$

(grades 2 and 3 combined)

### Menopause

In very few patients did the menopause seem to have been related to the onset of their illness. Four of the hypochondriacal females and one of the controls stated that their illness had begun while they were menopausal or within a year of the onset of menopausal symptoms such as hot flushes, scanty and irregular periods or amenorrhoea.

Other Factors of Possible Aetiological Significance

Physical Illness or Operation related to Onset of psychiatric Symptoms

Patients were classified according to whether or not they had had a physical illness or operation during the three months prior to the onset of their psychiatric symptoms. The hypochondriacal and control patients did not differ markedly in this regard (Table 133).

Table 133 - Physical Illness related to Onset of Psychiatric Symptoms

	Hypochondriacal	Control	
Physical illness related to onset	35 (23.8%)	14 (21.5%)	49
Others	112 (76.2%)	51 (78.5%)	163
	147	65	212
	$\chi^2 = 0.03$ 1 df n.s.		

There is a more marked difference between the male than between the female patients but in neither case does it attain statistical significance (Table 134)

Table 134 - Physical Illness or Operation Related to Onset of Psychiatric Symptoms (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Physical illness or operation	18 (24.3%)	11 (27.5%)	17 (23.3%)	3 (12%)	49
No physical illness or operation	56 (75.7%)	29 (72.5%)	56 (76.7%)	22 (88%)	163
	74	40	73	25	212
	$\chi^2 = 0.02$ 1 df n.s.		$\chi^2 = 0.85$ 1 df n.s.		

The physical illnesses involved were extremely varied. Those encountered in the female hypochondriacal patients were psoriasis, labyrinthitis, duodenal ulcer, gastroenteritis, post-partum haemorrhage due to a retained placenta, haematuria, thyrotoxicosis, pulmonary tuberculosis, syphilis and pyelitis (in two cases). Two subjects had undergone a complete dental clearance, one a colporrhaphy, one a hysterectomy and one a herniorrhaphy. In one subject the illness began shortly after a miscarriage at 20 weeks.

The male hypochondriacal patients reported a haematemesis (in three cases), peptic ulcer symptoms (in four cases), early rheumatoid arthritis, nephritis, Sydenham's chorea, coronary thrombosis, pernicious anaemia, otitis media, sinusitis, infective hepatitis, supraspinatus tendinitis, hypertension (three cases), paroxysmal tachycardia (supraventricular) in two cases and bronchitis (three cases). One patient had undergone a herniorrhaphy and one a laminectomy. One had suffered a Collé's fracture of the radius.

In the female control group the conditions were menorrhagia, epilepsy, angina, aqueduct stenosis, herpes zoster, hypertension, ulcerative colitis, a miscarriage at ten weeks and a prolapsed intervertebral disc. One patient had had a mastoidectomy, one a colporrhaphy and one a removal of a benign tumour from the breast.

The male controls reported bronchitis, a prolapsed intervertebral disc, prostatitis, and a haematemesis.

### Accident Related to Onset of Illness

Accidents causing physical injury, pain or discomfort which had occurred during the three months before the onset of psychiatric symptoms, and which the patient considered at least one of the causes of the illness, were reported by 13 (17.8%) of the hypochondriacal males and 5 (20%) of the male controls - clearly a non-significant difference. Only one hypochondriacal female and two control females reported an accident. The differences between the male groups are obviously not significant. When the sexes are combined the Chi Square value is 0.001, which falls far short of the accepted level for significance.

### Compensation

None of the male controls were actively involved in compensation proceedings for an injury, although five had received compensation for injuries in the past. Of the hypochondriacal males ten patients were actively pre-occupied with the question of compensation. Of these only two were involved in proceedings but the rest frequently contemplated them. One patient had received compensation but felt that it was insufficient.

Thus compensation was a current issue in the case of hypochondriacal male patients only. None of the female hypochondriacal patients were involved in compensation proceedings or had received compensation in the past.

### Exposure to Illness in a Relative or Friend

Subjects were asked whether they had been in contact with a relative,

close friend or colleague who had suffered a serious illness within three months of the onset of their own symptoms. Table 135 shows the numbers reporting such an experience in the hypochondriacal and control groups.

Table 135 - Exposed to Illness in a Relative or Friend

	Hypochondriasis	Control	
Exposed to illness	63 (42.9%)	31 (47.7%)	94
Not exposed to illness	84 (57.1%)	34 (52.3%)	118
	147	65	212

$\chi^2 = 0.25$  1 df n.s.

The figures for the male and female patients are shown in Table 136.

Table 136 - Exposed to Illness in Relatives or Friends (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Exposed to illness	30 (40.5%)	20 (50%)	33 (45.2%)	11 (44%)	94
Not exposed to illness	44 (59.5%)	20 (50%)	40 (54.8%)	14 (56%)	118
	74	40	73	25	212

$\chi^2 = 0.6$  1 df n.s.       $\chi^2 = 0.49$  1 df n.s.

The individuals experiencing illness with whom patients had been in contact are shown in Table 137.

The commonest ill person with whom subjects in both groups had been in contact was a parent. Friends or colleagues were second in frequency in the hypochondriacal sample and last in the control group. In neither group was contact with an ill spouse particularly common.

Some patients had, of course, been in contact with more than one person suffering from an illness.

None of the control patients had physical symptoms similar to those of people with whom they had been in contact, nor, of course, were they pre-occupied by the specific illness. In the case of the hypochondriacal patients, all were in some way pre-occupied with the illness of the person they had known and tended to recognize similar symptoms in themselves.

Table 137 - Individuals with Illness to whom patient was exposed

	Hypochondriasis			Control		
	Females	Males	Total	Females	Males	Total
Parent	13	17	30	7	3	10
Spouse	5	1	6	3	2	5
Child	4	1	5	3	1	4
Sibling	3	5	8	2	4	6
Other relative	6	2	8	5	1	6
Friend or Colleague	7	8	15	1	1	2

Feelings of Guilt

These fell into two main groups. Those relating to sexual matters (in particular extra-marital intercourse) and those relating to self-reproach in general over duties and responsibilities. The numbers who reported guilt over their sexual behaviour is shown in Table 138.

Table 138 - Sexual Guilt

	Hypochondriasis	Control	
Sexual guilt present	23 (15.6%)	7 (10.8%)	30
No sexual guilt	124 (84.4%)	58 (89.2%)	182
	147	65	212

$\chi^2 = 0.53$  1 df n.s.

The hypochondriacal patients reported slightly more guilt related to their sexual behaviour than the control patients but this was not significant. This trend was more marked in the female than in the male patients (Table 139).

Table 139 - Sexual Guilt: Females and Males

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Sexual guilt present	11 (14.9%)	3 (7.5%)	12 (16.4%)	4 (16%)	30
No sexual guilt	63 (85.1%)	37 (92.5%)	61 (83.6%)	21 (84%)	182
	74	40	73	25	212

$\chi^2 = 0.71$  1 df n.s. Not significant on inspection

Guilt feelings in general were commoner in the non-hypochondriacal patients (Table 140). This finding was statistically significant.

Table 140 - Guilt Feelings

	Hypochondriasis	Control	
Guilt feelings reported	20 (13.6%)	19 (29.2%)	39
No guilt feelings	127 (86.4%)	46 (70.8%)	173
	147	65	212

$\chi^2 = 6.32$  1 df  $p < 0.02$

The same negative association between hypochondriasis and guilt is present in both male and female subjects but it does not reach statistical significance (Table 141).

Table 141 - Guilt Feelings in Females and Males

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Guilt feelings reported	14 (18.9%)	13 (32.5%)	6 (8.2%)	6 (24%)	39
No guilt feelings reported	60 (81.1%)	27 (67.5%)	67 (91.8%)	19 (76%)	173
Totals	74	40	73	25	212

$\chi^2 = 1.95$  1 df n.s.       $\chi^2 = 2.97$  1 df n.s.

Feelings of Resentment and Hostility

More than half of the hypochondriacal patients admitted to feelings of resentment and hostility towards individuals with whom they came into almost daily contact, but towards whom they felt unable to express these feelings. Thus one patient felt considerable hostility towards his mother-in-law but felt he should not say anything since he and his wife

were dependant upon her for accommodation. Another patient was extremely resentful about the way in which his employer had transferred him to a post which he found disagreeable but was unable to complain. Most of the patients who felt that they deserved compensation felt resentment towards those whom they regarded responsible for their situation, such as trade union officials, solicitors and doctors. In most cases the feelings of resentment could be traced back to the period before symptoms first began. It should be said that these feelings were often admitted only after many interviews with the patient. The numbers reporting resentment are shown in Table 142.

Table 142 - Feelings of Resentment and Hostility

	Hypochondriasis	Control	
Resentment	78 (53.1%)	20 (44.4%)	98
No resentment	69 (46.9%)	45 (55.6%)	114
	147	65	212
	$\chi^2 = 6.32 \quad 1 \text{ df} \quad p < 0.02$		

The association between hypochondriasis and unexpressed resentment is present in both sexes but significant only in the females (Table 143)

Table 143 - Resentment and Hostility (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Resentment	44 (59.5%)	12 (30%)	34 (46.6%)	8 (32%)	98
No resentment	30 (40.5%)	28 (70%)	39 (53.4%)	17 (68%)	114
	74	28	73	25	212
	$\chi^2 = 7.9 \quad 1 \text{ df} \quad p < 0.01$		$\chi^2 = 1.08 \quad 1 \text{ df} \quad \text{n.s.}$		

The various individuals towards whom resentment was felt are listed in Table 144. Some patients were resentful towards more than one person.

Table 144 - Individuals towards whom Resentment was Felt by Hypochondriacal Patients

	Males	Females
Officials involved in compensation	10	0
Superior at work	7	1
Parent	6	9
Sibling	6	4
Doctors	5	1
Parent-in-law	2	2
"Friends" and colleagues	2	3
Spouse	1	16
Other relatives	0	5
Child	0	6

It can be seen from Table 144 that there is a striking sex difference with regard to the target of the patient's aggression. In the case of male patients, individuals connected with compensation claims, superiors at work, parents and siblings were the commonest targets; whereas in the female patients these feelings were aimed most commonly at husbands, parents and children.

The Influence of Radio, Television, Newspapers and Magazines

Although a number of patients stated that reports or descriptions of diseases encountered in various mass communication media tended to make them anxious and apprehensive about contracting the disease, no patient related such an incident to the onset of psychiatric symptoms.

The numbers admitting to being affected by these sources are shown in Table 145.

Table 145 - The effect of Mass Communication Media

	Hypochondriacal	Control	
Affected by mass media	25 (17%)	5 (7.7%)	30
Not influenced	122 (83%)	60 (92.3%)	182
Totals	147	65	212
	$\chi^2 = 2.5 \quad 1 \text{ df} \quad \text{n.s.}$		

As can be seen from Table 145, the hypochondriacal patients were more prone to be influenced by television, etc. but the association is not statistically significant. The figures for the two sexes (Table 146) shows that the female hypochondriacals differ more markedly from the female controls with regard to the influence of the mass media than do the male hypochondriacal patients from the male controls.

Table 146 - The effect of Mass Communication Media (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Affected by mass media	14 (18.9%)	2 (5%)	11 (15.1%)	3 (12%)	30
Not influenced	60 (81.1%)	38 (95%)	62 (84.8%)	22 (88%)	182
	74	40	73	25	212
	$\chi^2 = 3.1 \quad 1 \text{ df} \quad \text{n.s.}$		$\chi^2 = 0.02 \quad 1 \text{ df} \quad \text{n.s.}$		

### The Influence of "Medical" Books

Twelve hypochondriacal patients (eight males and four females) said that they possessed a book of medical information for laymen which they had long been in the habit of reading. No patient, however, felt that any of his symptoms had started after reading such a book, although the information may have caused more anxiety. Of the control sample, no patient admitted to possessing or reading such a book.

### Iatrogenic Factors

It was not easy to assess the part played by the statements or actions of doctors in the aetiology of the patients' illness. However, such factors seemed to have operated in 22 (15%) of the hypochondriacal patients (12 males and 10 females) and were not found in any of the control patients ( $\chi^2 = 16.82$ , 1 df,  $p < 0.001$ ).

The part played by the doctor tended to take two forms. Either the patient was influenced by the doctors management of his case, or by the doctor's remarks. Thus one patient was told by his doctor that he had suffered a coronary and should take things easy in bed for six weeks. He was later told that this was not the case but was unable to be convinced and continued to fear the consequences of exertion.

Another patient was referred to the hospital by his family doctor for a suspected murmur when he was six years old. The hospital found nothing untoward and discharged him. His doctor, however, was convinced that cardiac pathology was present and ordered him to avoid strenuous activities. He referred him back to the hospital for another opinion

which was again reassuring. However, the general practitioner insisted that something was wrong and repeated his advice. The patient had been pre-occupied with his cardiac function ever since.

In some cases the patient focused his attention on a remark which he claimed had been made during his illness. Two patients were concerned because their doctors had said that their stomachs produced too much acid and they were convinced that this was impairing their general health.

A number of patients had become anxious and concerned because of the number of investigations carried out. Thus, a twenty year old male patient who complained of pains in his muscles became alarmed when he was thoroughly investigated by physicians and orthopaedic surgeons because two of his uncles suffered from a familial muscle disorder.

### Bereavement

Only bereavements involving a close relative or friend, and occurring within six months of the onset of symptoms were considered. There was no significant difference between hypochondriacal and control patients with regard to this variable (Table 147).

Table 147 - Bereavement

	Hypochondriasis	Control	
Bereaved	24 (16.3%)	10 (15.4%)	34
Not bereaved	123 (83.7%)	55 (84.6%)	178
	147	65	212

$$\chi^2 = 0.03 \quad 1 \text{ df} \quad \text{n.s.}$$

Examination of the figures for males and females (Table 148) shows a tendency for more hypochondriacal males to have experienced bereavement than male controls, but the numbers are too small for statistical analysis.

Table 148 - Bereavement (by Sex)

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Bereaved	14 (18.9%)	9 (22.5%)	10 (13.7%)	1 (4%)	34
Not bereaved	60 (81.1%)	31 (77.5%)	63 (86.3%)	24 (96%)	178
	74	40	73	25	212

$\chi^2 = 0.04$  1 df n.s. Numbers too small

In the case of the hypochondriacal females the lost relative was a mother in eight cases, a father in four cases and a spouse in two cases. The hypochondriacal males lost a father in four cases, a mother in one case, a spouse in two cases, a grandparent in two cases and a close friend in one case.

The female controls had lost a mother in four cases, a spouse in one case and other relatives in four cases. The male control who had been bereaved had lost his mother.

Involvement in the Care of a Sick Person

Eighteen of the hypochondriacal patients had been involved in the care of a sick person during the six months previous to the onset of their illness and in a few cases were still involved. Of the eighteen, only three were males. The females had tended to the needs of their mothers in eight cases, fathers in one case, spouse in three cases, a child, a mother-in-law and a sibling - each in one case. The three

hypochondriacal males had cared for a mother, a friend and a mother-in-law.

The one male control was caring for his spouse and the female controls had cared for their mothers (2 cases), a child, a grandmother and a cousin.

Although more of the hypochondriacal patients tended to have been involved in such activities the differences were small and not significant (Tables 149 and 150)

Table 149 - Involved in the Care of a Sick Person

	Hypochondriasis	Control	
Involved in care of sick person	18 (12.2%)	6 (9.2%)	24
Others	129 (87.8%)	59 (90.8%)	188
	147	65	212
	$\chi^2 = 0.16$ 1 df n.s.		

Table 150 - Involved in the Care of a Sick Person: Males and Females

	Females		Males		
	Hypochondriasis	Control	Hypochondriasis	Control	
Involved in care of sick person	15 (20.3%)	5 (12.5%)	3 (4.1%)	1 (4%)	24
Others	59 (79.7%)	35 (87.5%)	70 (95.9%)	24 (96%)	188
	74	40	73	25	212
	$\chi^2 = 0.6$ 1 df n.s.		Not significant on inspection		

PART TWO: The 147 Hypochondriacal and 65 Control Patients personally studied:

Summary of Significant Findings.

1. Hypochondriacal patients are overrepresented in the unskilled and semiskilled manual occupations and underrepresented in the skilled and non-manual occupations.  
(Significant in males and females)
2. Hypochondriacal patients are more likely to have been referred from a non-psychiatric hospital department than from their own general practitioner. (Not significant in females)
3. Hypochondriacal subjects were more likely to have been drawn from the "new referral" clinic and the "followup" clinic, as opposed to the in-patient and day hospital units.  
(Not significant in females)
4. Hypochondriacal patients reported having been ill for longer before first referral to the Department of Psychiatry.  
(Not significant in males)
5. Endogenous depression was diagnosed more often in the control subjects.  
(Significant in males and females)
6. Neuritic depression was commoner in the control subjects.  
(Numbers too small for statistical comparisons within each sex).
7. Hypochondriacal patients have higher average "somatic", "psychiatric" and "total" scores on the Cornell Medical Index.  
(Significant in males and females)
8. Hypochondriacal patients were less likely to have a history of a suicidal attempt.  
(Significant in males and females)

9. Hypochondriacal patients had been referred to more non-psychiatric consultants during the illness before referral to the Department of Psychiatry.  
(Significant in males and females)
10. Hypochondriacal patients were less likely to have had a previous psychiatric illness treated.  
(Not significant in males)
11. Hypochondriacal patients were more likely to have "anxiety-prone" personalities.
12. Hypochondriacal patients were more likely to have hypochondriacal personalities.  
(Significant in males and females)
13. Hypochondriacal female patients were less likely than female controls to be submissive personalities.  
(Not significant in males or with sexes combined)
14. Hypochondriacal patients were less likely to show emotional immaturity.  
(Significant only with sexes combined)
15. Hypochondriacal patients were less likely to have cyclothymic personalities.  
(Significant in females. The incidence in males was too low for testing but the same trend was present.)
16. Hypochondriacal patients were less likely to have been in prolonged contact with a sibling who was ill  
(Significant only when sexes combined)
17. Hypochondriacal patients tend to have more siblings than control patients.  
(Not significant in males)

18. Hypochondriacal patients were more likely to have been considered "delicate children".  
(Significant in males and females)
19. Hypochondriacal patients reported less marital disharmony.  
(Significant only when sexes combined)
20. Hypochondriacal patients were more likely to have a poor sexual adjustment.  
(Not significant in males)
21. Hypochondriacal females tend to have more dysmenorrhea than control females.
22. Compensation for injuries was a current concern in the case of male hypochondriacal patients only.
23. Hypochondriacal patients who had been in contact with illness in someone else tended to find their symptoms in themselves - the control patients never did.
24. Hypochondriacal patients were less likely to report feelings of guilt.  
(Significant only when sexes combined)
25. Hypochondriacal patients were more likely to report feelings of resentment and hostility which they were unable to express to the person involved.  
(Not significant in the males)
26. Only hypochondriacal patients reported the possession of books containing medical information which they made a practice of reading.
27. Iatrogenic factors were found only in the hypochondriacal patients.

Treatment and Outcome

Information was obtained from the case notes of the patient's condition when last seen by a member of the staff of the Department of Psychiatry, in those cases which had not been seen personally at that time. If the patient's notes gave inadequate data the patient's general practitioner was contacted for further details. If the patient had been transferred to another hospital the case notes were written for. Further facts were obtained from the doctor who had seen the patient last and in some cases the psychiatric social worker.

The information sought was as follows:

1. Nature of treatments received from time of first referral to date last seen including the amount of time spent as an in-patient and day-patient
2. Nature and degree of symptoms when last seen. These were graded according to whether they were
  - a) completely absent
  - b) occasionally present
  - c) present most of the time and
  - d) always present
3. Nature of work adjustment. This was graded either as
  - a) working normally
  - b) slight impairment of work capacity (has to take rests, occasional time off)
  - c) marked impairment of work capacity - doing only "light" work or
  - d) unable to work at all

4. Whether or not discharged when last seen.

The patients were divided into three groups on the basis of their condition when last seen. The criteria for placing in each group were as follows:

Group I: a) Hypochondriacal phenomena completely absent or only occasionally present and

b) working normally or with only slight impairment

Group II: a) Hypochondriacal phenomena present all or most of the time and

b) working normally or with only slight impairment

Group III: a) Hypochondriacal phenomena present all or most of the time and

b) unable to work or doing only "light work."

The three groups of patients described above have been compared on the variables described in the foregoing section. Only the data on variables which are significantly associated with prognosis will be reported in detail.

Length of Follow-Up

By length of "follow-up" is meant the time to the nearest month from the patient's first referral to the Department of Psychiatry of the United Sheffield Hospitals to the time they were last seen. The average follow-up for the female hypochondriacal patients was 33 months and for the males 29 months. The patients have been grouped according to length of follow-up and the figures are shown in Table 151.

Table 151 - Length of Follow-up of each Prognostic Group (sexes combined)

Follow-up (months)	Clinical state at follow-up			
	I "Good"	II "Fair"	III "Poor"	
0 - 12	15	10	3	28
13 - 24	19	12	4	35
25 - 36	19	4	11	34
37 - 48	10	9	13	32
49 +	8	6	4	18
	71	41	35	147

$$\chi^2 = 15.797 \quad 8 \text{ df} \quad p < 0.05$$

As can be seen from Table 154 there is a significant association between outcome and length of follow-up, as would be expected the patients with the poor outcome tending to have the longest follow-up.

### Treatment

Patients received a wide variety of treatments, both pharmacological and psychological. To give some idea of the treatments given the numbers of patients who received each type of treatment at some stage of their illness is shown in Table 152. Drug treatments have been subdivided into antidepressants (mainly imipramine, phenelzine and tranlycypromine), sedatives (mainly chlordiazepoxide, diazepam and meprobamate) and tranquillizers (mainly chlorpromazine and trifluoperazine).

Psychotherapy has been divided into intensive (psychoanalytically orientated psychotherapy given at least once weekly for at least fifty minutes) and supportive (sessions at least once every four weeks).

Two patients (one male, one female) had been leucotomized prior to referral.

Patients did, of course, receive more than one form of treatment during their illness.

Table 152 - Treatments received by Patients grouped by Follow-Up Status

Treatment	<u>Clinical State at Follow-Up</u>						
	Group I (good)		Group II (fair)		Group III (poor)		
	Females N = 36	Males N = 35	Females N = 25	males N = 16	Females N = 22	Males N = 22	
Electro-convulsive	6	10	5	3	2	9	35 (23.8%)
Anti-depressants	25	20	8	9	6	14	82 (55.8%)
Sedatives	26	22	17	13	12	18	108 (73.5%)
Tranquillizers	9	6	7	3	4	5	34 (23.1%)
"Supportive" psychotherapy	11	6	5	2	5	8	37 (25.2%)
"Intensive" psychotherapy	4	2	2	2	3	1	14 (9.5%)

From Table 152 it can be seen that sedatives were used in the greatest number of patients. Electroconvulsive therapy was given to 31.4% of the patients in Group III and 22.5% of patients in Group I. However, anti-depressants were used most commonly in Group I (63.4%). Sedatives were used in 85.7% of patients in Group III as opposed to 73.7% in Group II and 67.6% in Group I. The tranquillizers were not widely used and the numbers receiving them in each group did not differ

markedly from (Group I: 21.1%; Group II: 24.4%; Group III: 25.7%). Psychotherapy and in particular the "intensive" variety was given to relatively few patients.

#### In-Patient and Day Hospital Treatment

The number of weeks spent by each patient as an in-patient or day-patient in any hospital from first referral to the Department of Psychiatry of the United Sheffield Hospitals to the date last seen was obtained from case-notes. The number of weeks as a day-patient or in-patient was converted into a percentage of the total number of weeks from first referral to follow-up so as to facilitate inter-group comparisons.

The distribution of patients according to the percentage time as an in-patient is shown in Table 153.

Table 153 - Percentage Time Spent as In-Patients by Follow-Up Status

Clinical Status at Follow-up

	Group I (good)		Group II (Fair)		Group III (poor)		Total
	Female	Male	Female	Male	Female	Male	
	N = 36	N = 35	N = 25	N = 16	N = 13	N = 22	
No admissions	21 (58.3%)	20 (57.1%)	16 (64%)	13 (81.3%)	2 (15.4%)	8 (36.4%)	80 (54.4%)
Less than 1%	0	1 (2.9%)	1 (4%)	0	0	1 (4.5%)	3 (2.0%)
1 - 5%	9 (25%)	6 (17.1%)	5 (20%)	3 (18.8%)	5 (38.5%)	7 (31.8%)	35 (23.8%)
6 - 10%	4 (11.1%)	5 (14.3%)	2 (8%)	0	2 (15.4%)	3 (13.6%)	16 (10.9%)
11 - 15%	2 (5.6%)	1 (2.9%)	0	0	3 (23.1%)	0	6 (4.1%)
16 - 20%	0	0	0	0	1 (7.7%)	1 (4.5%)	2 (1.4%)
21 - 25%	0	1 (2.9%)	1 (4%)	0	0	0	3 (2.0%)
---							
51 - 55%	0	1 (2.9%)	0	0	0	0	1 (0.9%)
56 - 60%	0	0	0	0	0	1 (4.5%)	1 (0.9%)
Average in-patients stay (weeks)	2.5	3.3	2.7	1.7	8.9	10.7	

**Table 154 - Percentage of Time Spent as Day-Patient by Follow-Up Status**

	Clinical state at follow-up						Total
	Group I (good)		Group II (fair)		Group III (poor)		
	Female	Male	Female	Male	Female	Male	
	N = 36	N = 35	N = 25	N = 16	N = 13	N = 22	
Never admitted	30 (83.3%)	28 (80%)	20 (80%)	12 (75%)	9 (69.2%)	11 (50%)	110 (74.8%)
Less than 1%	1 (2.8%)	2 (5.7%)	1 (4%)	0	0	1 (4.5%)	5 (3.4%)
1 - 5%	2 (5.6%)	2 (5.7%)	3 (12%)	2 (.25%)	1 (7.7%)	4 (18.2%)	14 (9.5%)
6 - 10%	0	2 (5.7%)	1 (4%)	1 (6.3%)	0	3 (13.6%)	7 (4.8%)
11 - 15%	1 (2.8%)	0	0	0	1 (7.7%)	1 (4.5%)	3 (2.0%)
16 - 20%	0	1 (2.9%)	0	0	0	0	1 (0.7%)
21 - 25%	1 (2.8%)	0	0	0	1 (7.7%)	1 (4.5%)	2 (2.0%)
26 - 30%	0	0	0	0	1 (7.7%)	0	0
More than 30%	1 (2.8%)	0	0	1 (6.3%)	1 (7.7%)	1 (4.4%)	4 (2.7%)
Average day-patient stay (weeks)	2.2	1.1	1.5	2.7	8.1	5.7	

As can be seen from Table 153 patients in Group III were much more likely to have been admitted as in-patients at least once, and tended to spend the longest periods in hospital. The Group II patients were least likely to have been admitted. Only three of the sixteen male patients in Group II had ever been admitted.

The percentage time spent as a day patient is shown in Table 154. Attending the day hospital involves the patient arriving at the hospital each day at about 9.30 a.m. and departing for home at about 4.30 p.m. As in the case of in-patient stay, patients in Group III have made most use of the day hospital.

#### Disposal when Last Seen

"Disposal" refers to the decision made by the doctor when the patient was last seen with regard to discharge or further attendance. The number of patients who simply stopped attending despite having been given a further appointment is also shown. The numbers in each group are shown in Table 155.

Table 155 - Disposal at Last Interview by Follow-up Status

	Clinical state at follow-up			
	I (Good)	II (Fair)	III (Poor)	
Discharged	40 (56.3%)	9 (22%)	6 (17.1%)	55
Still attending	15 (21.1%)	16 (39%)	26 (74.3%)	57
"Did not attend"	16 (22.5%)	16 (39%)	3 (8.6%)	35
	71	41	35	147

$$\chi^2 = 37.8 \quad 4 \text{ df} \quad p < 0.001$$

As would be expected, there is a highly significant association between disposal at last interview and clinical state. Thus, the patients with the worst outcome are least likely to have been discharged or to have stopped attending of their own accord.

Age at Referral and Sex Distribution

The distribution of patients by age at referral, sex and clinical state at follow-up is shown in Table 156.

Table 156 - Age at Referral and Sex Distribution by follow-up Status

Age Group (years)	Clinical state at follow-up						
	Group I (Good)		Group II (Fair)		Group III (Poor)		
	Female	Male	Female	Male	Female	Male	
15 - 24	1 (2.8%)	3 (8.5%)	2 (8%)	2 (12.5%)	-	-	8
25 - 34	11 (30.6%)	6 (17.1%)	5 (20%)	6 (37.5%)	5 (38.5%)	2 (9.1%)	35
35 - 44	6 (16.7%)	10 (28.5%)	4 (16%)	4 (25%)	4 (30.8%)	3 (13.6%)	31
45 - 54	10 (27.8%)	8 (22.9%)	8 (32%)	2 (12.5%)	2 (15.4%)	7 (31.8%)	37
55 - 64	6 (16.7%)	7 (20%)	5 (20%)	2 (12.5%)	1 (7.7%)	9 (40.9%)	30
65 +	2 (5.6%)	1 (2.9%)	1 (4%)	0 (-)	1 (7.7%)	1 (4.5%)	6
Totals	36	35	25	16	13	22	147
Mean Age	43.42	42.03	44.52	38.06	39.08	50.54	
Standard Deviation	13.04	12.88	13.82	11.16	12.64	9.35	

The significance of the difference between the mean ages has been calculated by means of student's "t" test since some of the samples were rather small. The results are shown in Table 157.

Table 157 - Comparison of Ages in Clinical Outcome Groups

<u>Groups Compared</u>	<u>t</u>	<u>degrees of freedom</u>	<u>significance</u>
I Males and I Females	0.44	69	n.s.
II Males and II Females	1.53	39	n.s.
III Males and III Females	9.42	33	p < 0.001
I Males and II Males	1.04	49	n.s.
I Males and III Males	2.64	55	p < 0.02
II Males and III Males	3.64	36	p < 0.001
I Females and II Females	0.31	59	n.s.
I Females and III Females	1.02	37	n.s.
II Females and III Females	1.16	36	n.s.

As can be seen from Tables 156 and 157 age at referral is related to outcome in the male hypochondriacal patients while the differences between the mean ages of the hypochondriacal females are not significant. It is also of interest that the male group III patients are significantly older than the female patients with a poor outcome. The pattern of mean ages is also rather different in the two sexes. Thus the males with a "fair" outcome have the lowest average age, which is in fact significantly lower than that of the males with a poor outcome, but not

significantly lower than the average age of males with a "good" outcome. In the case of the females, however, the subjects with the "poor" outcome have the lowest average age.

Civil State and Social Class were not significantly related to prognosis.

A Family History of psychiatric treatment, hypochondriasis in either parent or loss of either parent before the age of 16 years were not significantly related to outcome.

Of the variables in the Personal History, only one was significantly related to outcome. This was a history of prolonged contact with illness in a sibling. Number of siblings, position in the sibship, childhood stress, illness or stays in hospital in childhood and a history of being overprotected did not show a significant association with clinical outcome.

Patients reporting prolonged contact with serious illness in a sibling tended to have a worse prognosis. The number of males reporting such an experience (9) were too few to permit statistical evaluation but in the females there was a significant association ( $\chi^2 = 3.87$ , 1 df,  $p < 0.05$ , Groups II and III combined).

Table 158 - Prolonged Exposure to Illness in a Parent or Sibling during Childhood and Follow-Up Status

		Clinical state at follow-up			
		I (Good)	II (Fair)	III (Poor)	
History of contact with illness in parent or sibling		6 (8.5%)	11 (26.8%)	6 (17.1%)	23 (15.7%)
Others		65 (91.5%)	30 (73.2%)	29 (83.9%)	124 (84.3%)
		71	41	35	147
		$\chi^2 = 6.73$ 2 df $p < 0.05$			

As can be seen from Table 158 the patients with a fair outcome were most likely to have been in contact with serious illness in a sibling while the patients with a good outcome were least likely to have reported such an experience.

In the case of married patients there was no association between outcome and the number of children or the presence of marital disharmony.

Sexual Adjustment was related to outcome in the case of male patients, but not the females (table 154). As can be seen the subjects with a fair clinical outcome were least likely to report a poor sexual adjustment.

Table 159 - Sexual Adjustment and Follow-up Status in Male Hypochondriacal Patients

	Clinical State at Follow-up			
	I (Good)	II (Fair)	III (Poor)	
Poor sexual adjustment	17 (48.6%)	2 (12.5%)	9 (40.9%)	28 (38.3%)
Good sexual adjustment	18 (41.4%)	14 (87.5%)	13 (59.1%)	45 (61.7%)
	35	16	22	73

$$\chi^2 = 6.13, 2 \text{ df } p < 0.05$$

Dysmenorrhoea in female patients was not related to clinical outcome. It is interesting to note, however, that of the patients with the poor outcome, seven (46.2%) had moderate (Grade II) or severe (Grade III) dysmenorrhoea; as opposed to 27.8% of females with a good outcome and 28% of patients with a fair outcome.

Clinical Features Related to Outcome

The duration of the illness when the patient was first referred to the Department of Psychiatry was significantly related to outcome (Table 160).

Table 160 - Duration of Illness on Referral and Follow-up Status.

Duration of Illness (months)	Clinical State at Follow-up			
	I (Good)	II (Fair)	III (Poor)	
0 - 18	44 (62%)	8 (19.5%)	20 (57.1%)	72 (48.9%)
19 - 30	9 (12.7%)	9 (21.9%)	2 (5.7%)	20 (13.6%)
31 - 90	10 (14.1%)	10 (24.4%)	5 (14.3%)	25 (17%)
91 +	8 (11.3%)	14 (34.1%)	8 (22.9%)	30 (20.4%)
	71	41	35	147

$$\chi^2 = 22.6, 6 \text{ df } p < 0.001$$

As can be seen from Table 160 the striking differences occur between the group with a fair clinical outcome and the other two groups. Patients in this group tend to have a longer illness. Although patients in Group III had also been ill for a longer period than those in Group I the differences are not quite so marked.

The findings for the two sexes are shown in Tables 161 and 162. In view of the smaller numbers, categories have been combined.

Table 161 - Duration of Illness on Referral and Follow-up Status  
in Females

Duration of Illness (months)	Clinical State at Follow-up			
	I (Good)	II (Fair)	III (Poor)	
0 - 30	27 (75%)	11 (44%)	10 (76.9%)	48 (64.9%)
31 +	9 (25%)	14 (56%)	3 (23.1%)	26 (35.1%)
Totals	36	25	13	74

$$\chi^2 = 7.2, 2 \text{ df } p < 0.01$$

Table 162 - Duration of Illness on Referral and Follow-up Status  
in Males

Duration of Illness (months)	Clinical State at Follow-up			
	I (Good)	II (Fair)	III (Poor)	
0 - 30	26 (74.3%)	6 (37.5%)	12 (54.5%)	44 (60.3%)
31 +	9 (25.7%)	10 (62.5%)	10 (45.5%)	29 (39.7%)
Totals	35	16	22	73

$$\chi^2 = 6.64, 2 \text{ df } p < 0.01$$

The relation of duration of illness on referral and outcome seems to differ in males (Tables 161 and 162). The main difference is in the patients with a poor outcome. In the case of the females these patients do not differ much from those with a good prognosis with regard to duration of illness, whereas the males with a poor prognosis do tend to have a longer illness than those with a good prognosis.

Diagnosis

Only one diagnosis was significantly related to outcome - "endogenous depression". The figures are shown in Table 163.

Table 163 - Endogenous Depression and Follow-up Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Endogenous depression	15(41.7%)	14(40%)	3(12%)	2(12.2%)	2(15.4%)	7(31.8%)	43(29.3%)
Other	21(58.3%)	21(60%)	22(88%)	14(87.8%)	11(84.6%)	15(68.2%)	104(70.7%)
Totals	36	35	25	16	13	22	147

$$\chi^2 = 10.59, 2 \text{ df } p < 0.01 \text{ (sexes combined)}$$

As can be seen from Table 163, the diagnosis of endogenous depression was associated with a good prognosis. It is of interest, however, that the difference between the males with a poor outcome and those with a good outcome is not as striking as that between the

females in the corresponding groups. ( $\chi^2 = 3.85, 2 \text{ df ns}$ ). In females the association between prognosis and endogenous depression is statistically significant. ( $\chi^2 = 6.24, 1 \text{ df } p < 0.02$ , combining groups II and III).

### Symptomatology

The nature of the hypochondriacal phenomena presented by the patients were related to outcome in a number of ways.

The regions of the body to which symptoms were referred are shown in Table 164, grouped according to the prognosis of the patients who complained of them. There is a significant association in females between symptoms referred to the chest and outcome ( $\chi^2 = 16.6, 2 \text{ df } p < 0.001$ ).

Table 164 -

Region of Body Involved and Follow-up Status

## Clinical State at Follow-up

	I (Good)		II (Fair)		III (Poor)		Total N = 147
	Female N = 36	Male N = 35	Female N = 25	Male N = 16	Female N = 13	Male N = 22	
Head and Neck	18 (50%)	14 (40%)	14 (56%)	8 (50%)	7 (53.8%)	12 (54.5%)	73 (49.7%)
Chest	10 (27.8%)	12 (34.3%)	16 (64%)	5 (31.3%)	6 (46.2%)	9 (40.9%)	58 (39.5%)
Abdomen	9 (25%)	10 (28.6%)	6 (24%)	9 (56.3%)	6 (46.2%)	6 (27.3%)	46 (31.3%)
Back	5 (13.9%)	4 (11.4%)	4 (16%)	1 (6.3%)	3 (23.1%)	5 (22.7%)	22 (15%)
"All Over"	6 (16.7%)	3 (8.6%)	6 (24%)	1 (6.3%)	4 (30.8%)	2 (9.1%)	22 (15%)
Eyes	5 (13.9%)	2 (5.7%)	1 (4%)	6 (37.5%)	-	3 (13.6%)	17 (11.6%)
Upper Limbs	2 (5.6%)	4 (11.4%)	2 (8%)	-	-	5 (22.7%)	13 (8.8%)
Lower Limbs	2 (5.6%)	2 (5.7%)	4 (16%)	-	1 (7.7%)	3 (13.6%)	12 (8.2%)
Genitalia	2 (5.6%)	5 (14.3%)	2 (8%)	-	-	3 (13.6%)	12 (8.2%)
Anal	1 (2.8%)	3 (8.6%)	-	-	-	2 (9.1%)	6 (4.1%)

As can be seen from Table 164, females with "fair" prognosis are most likely to refer symptoms to the chest, followed by females with a "poor" prognosis and those with a "good" prognosis. In the case of the males the differences were not marked.

Symptoms have been categorized according to the system involved and are shown in Table 165, grouped according to outcome.

Symptoms involving the musculo-skeletal system were the only ones which showed a significant association with prognosis ( $\chi^2 = 7.43$  df  $p < 0.025$ , sexes combined). As can be seen from Table 165 musculoskeletal symptoms were associated with a bad prognosis particularly in the male patients and to a much lesser extent in the females. In the case of the former the Chi Square value of 5.1 approaches significance at the 5% level with two degrees of freedom. In the case of the females the Chi Square value is only 1.95 with one degree of freedom (combining outcome groups II and III).

As previously mentioned pain was complained of by 59.2% of the total sample of hypochondriacal patients. It was found to be significantly related to prognosis. The figures are shown in Table 166. In both the males and the females the complaint of pain is related to a poor prognosis but this is more striking in the case of the females and almost achieves statistical significance (Chi Square = 5.46, 2 df ns). In the case of the males the trend is less marked ( $\chi^2 = 1.87$ , 2 df ns).

Table 165 -

System to which Complaints Referred and Follow-up Status

	Clinical State at Follow-up						Total
	I (Good)		II (Fair)		III (Poor)		
	Female	Male	Female	Male	Female	Male	
	N = 36	N = 35	N = 25	N = 16	N = 13	N = 22	N = 147
Gastro-Intestinal	14 (38.9%)	12 (34.3%)	9 (22%)	11 (68.8%)	6 (46.1%)	9 (40.9%)	61 (41.5%)
Musculo Skeletal	7 (19.4%)	9 (25.7%)	9 (36%)	5 (31.3%)	5 (38.5%)	12 (54.5%)	47 (32%)
Cardiovascular	7 (19.4%)	15 (42.9%)	7 (31.7%)	6 (37.5%)	5 (38.5%)	3 (13.6%)	43 (29.3%)
Central Nervous system	10 (27.8%)	10 (28.6%)	5 (20%)	5 (31.3%)	3 (23.1%)	5 (22.7%)	38 (25.9%)
Respiratory	4 (11.1%)	9 (25.7%)	6 (24%)	3 (18.8%)	4 (30.8%)	9 (40.9%)	35 (23.8%)
Urogenital	7 (19.4%)	6 (17.1%)	4 (16%)	3 (18.8%)	2 (15.4%)	3 (13.6%)	25 (17%)
Skin, Hair and appearance	1 (2.8%)	1 (2.9%)	2 (9.8%)	2 (12.5%)	2 (15.4%)	2 (9.1%)	10 (6.8%)
"Mental"	-	2 (5.7%)	-	2 (12.5%)	-	2 (9.1%)	6 (4.1%)

Table 166 - Complaint of Pain and Follow-up Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Female	Male	Female	Male	Female	Male	
Complaint of Pain	14(38.9%)	21(60%)	16(64%)	10(62.5%)	9(69.2%)	17(77.3%)	87(59.2%)
No Complaint of Pain	22(61.1%)	14(40%)	9(36%)	6(37.5%)	4(30.8%)	5(22.7%)	60(40.8%)

$$\chi^2 = 6.48, 2 \text{ df } p < 0.05$$

(males and females combined)

"Primary" and Secondary" Hypochondriases were not significantly related to prognosis.(see later)

The presence of fears of the possibility of illness in the future which was earlier discussed was found to be significantly related to prognosis (Table 167). It can be seen that this relationship is particularly striking in the case of the male subjects (Chi Square = 17.4, 2 df p < 0.001). The trend is present in the female subjects but not significant (Chi Square = 1.3, 1 df ns, combining Groups II and III).

Table 167 - Fears of Illness and Follow-up Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Fears of Illness Present	16(44.4%)	20(57.1%)	7(28%)	4(25%)	4(30.8%)	1(4.5%)	52(35.4%)
No fears of Illness	20(55.6%)	15(42.9%)	18(72%)	12(75%)	9(69.2%)	21(95.5%)	95(64.6%)
Totals	36	35	25	16	13	22	147

$$\chi^2 = 15.42, 2 \text{ df } p < 0.01$$

(males and females combined)

Complaint behaviour at interview was closely related to prognosis. As can be seen from Table 168, there were no patients with a poor clinical outcome who were in any way reticent or unspontaneous about their complaints. In fact, of the 24 patients who were in any way unspontaneous, 21 had a good prognosis.

Table 168 - Complaint Behaviour at Interview and Followup Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Spontaneous	25(69.4%)	25(71.4%)	23(92%)	16(93.7%)	13(100%)	22(100%)	123
Not Spontaneous	11(30.6%)	10(28.6%)	2(8%)	1(6.3%)	0	0	24
Totals	36	35	25	16	13	22	147

$$\chi^2 = 18.4, 2 \text{ df } p < 0.001$$

(males and females combined)

Although the continuous or discontinuous nature of symptoms has not been taken into account in dividing patients into prognostic groups, it is of interest to note the differences in this regard, between the patients in the three groups.

The situation on admission is shown in Table 169. It is clear that the patients with the worst clinical outcome are more likely to have complained of continuous symptoms when they were first seen.

Table 169 - Continuous and Non-continuous Symptoms on admission and Follow-up Status

	Clinical State at Follow-up					
	I (Good)		II (Fair)		III (Poor)	
	Females	Males	Females	Males	Females	Males
Symptoms not continuous	12(33.3%)	9(25.7%)	6(24%)	5(31.3%)	0	2(9.1%)
Symptoms continuous	24(66.6%)	26(74.3%)	19(76%)	11(68.8%)	13(100%)	20(90.9%)
Totals	36	35	25	16	13	22

$$\chi^2 = 7.95, 2 \text{ df } p < 0.02 \text{ (males and females combined).}$$

The subjects with the worst outcome were more likely to have had symptoms which were continuous.

Having considered the situation on admission it is now interesting to examine it at the time of follow-up. The criteria for categorisation of the three outcome groups, mean, of course that none of the subjects in group I (Good clinical outcome) had symptoms which were present more than "occasionally". The frequencies will be shown for all groups, but only the group with the "fair" (II) and "poor" (III) clinical outcome, will be compared statistically (Table 170).

Table 170 - Continuous and Non-continuous Symptoms and Follow-up Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
1. Absent	10(27.8%)	6(17.1%)	0	0	0	0	16
2. Occasional	26(72.2%)	29(82.9%)	0	0	0	0	55
3. Most of time	0	0	14(56%)	9(56.3%)	3(23.1%)	4(18.2%)	30
4. All the time	0	0	11(44%)	7(43.7%)	10(76.9%)	18(81.8%)	46
	36	35	25	16	13	22	147

Comparing females in groups II and III:  $\chi^2 = 3.75$ , df ns

Comparing males in groups II and III:  $\chi^2 = 6.37$ , df  $p < 0.02$

Thus patients with the worst outcome are more likely to complain of continuous symptoms at follow-up.

The patients' response to reassurance when first seen was also related to outcome (Table 171).

Table 171 - Response to Reassurance and Follow-up Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Temporary response	21(58.3%)	18(51.4%)	9(36%)	7(43.7%)	3(23.1%)	4(18.2%)	62
No response	15(41.7%)	17(48.6%)	16(64%)	9(56.3%)	10(76.9%)	18(81.8%)	85
Totals	36	35	25	16	13	22	147

$$\chi^2 = 11.96, 2 \text{ df } p < 0.01$$

(males and females combined)

The association between a lack of response to reassurance and prognosis is clearly present in both sexes. In the males it is statistically significant (Chi Square = 6.37, 2 df  $p < 0.05$ ) but in the females the Chi Square value of 5.93 only just fails to attain the 5% level of significance for two degrees of freedom.

The presence or absence of conversion symptoms, obsessional features and depersonalization was not related to clinical outcome. A history of suicidal attempts was also unrelated to prognosis.

#### Physical Health

The degree of organic pathology was significantly related to prognosis (Table 172). As described earlier, the organic pathology was classified into four grades: none, mild, moderate and severe. There were only two female patients in the severe grade. For purposes of comparison the patients with mild, moderate and severe pathology have been grouped.

Table 172 - Organic Pathology and Follow-up Status

<u>Pathology</u>	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Female	Male	Female	Male	Female	Male	
Grade 1	30(83.3%)	24(68.6%)	19(76%)	13(81.3%)	9(69.2%)	8(36.4%)	103
Grade 2-4	6(16.7%)	11(31.4%)	6(24%)	3(18.7%)	4(30.8%)	14(63.6%)	44
Totals	36	35	25	16	13	22	147

$$\chi^2 = 10.17, 2 \text{ df } p < 0.01$$

(males and females combined)

Although the tendency for patients with a poor prognosis to have more physical pathology is present in both sexes, it is significant in the males (Chi Square = 9.25, 2 df  $p < 0.025$ ), but not in the females (Chi Square = 1.25, 2 df  $p > 0.05$ ).

Previous referral to non-psychiatric consultants was commoner in patients with a bad prognosis (Table 173).

Table 173 - Previous Referrals to Non-Psychiatric Consultants and Follow-up Status

		Clinical State at Follow-up						
		I (Good)		II (Fair)		III (Poor)		
		Females	Males	Females	Males	Females	Males	
Number of Consul- tants	0	21(58.3%)	11(31.4%)	10(40%)	5(31.3%)	3(23.1%)	3(13.7%)	53(36.1%)
	1	10(27.8%)	18(51.4%)	8(32%)	9(56.3%)	2(15.4%)	10(45.5%)	57(38.1%)
	2	5(13.9%)	6(18.2%)	7(28%)	2(12.5%)	8(61.5%)	9(50.9%)	37(25.9%)
Total		36	35	25	16	13	22	147

$$\chi^2 = 17.84, \quad 4 \text{ df} < p 0.01$$

(Males and females combined)

As can be seen from Table 173 more male and female patients with a poor prognosis had previously been referred to non-psychiatric consultants than patients with a good or fair clinical outcome. In the case of the females this finding was significant ( $\chi^2 = 6.83, 2 \text{ df } p < 0.05$ , patients with fair and poor prognosis combined). In the case of the males the association was not significant ( $\chi^2 = 2.35, 2 \text{ df } ns$ ).

A history of surgical operations for the presenting complaint or any other illness was not related to prognosis, nor was a history of previous psychiatric illness.

Premorbid Personality and Clinical Outcome

Only anxiety prone, hysterical and cyclothymic premorbid personality traits showed a significant relationship to prognosis. The obsessional, hypochondriacal, sensitive, paranoid, submissive, schizoid, aggressive and emotionally immature personality traits were not significantly associated with prognosis.

The distribution of anxiety-prone personalities in the three prognostic groups is shown in Table 174. It can be seen that in both sexes a previously anxiety prone personality is associated with a good prognosis. In the case of the males, however, these findings are more obvious and statistically significant ( $\chi^2 = 8.92, 2 \text{ df } p < 0.01$ ). In the case of the females, there is not much difference between patients with a good and a fair prognosis regarding anxiety-proneness, but the incidence is lower in those with a poor prognosis. This finding is not significant ( $\chi^2 = 8.92, 2 \text{ df } p < 0.01$ ).

Table 174 - Anxiety-Prone Personality and Follow-up Status

	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Anxiety-prone	31(86.1%)	31(88.5%)	22(88%)	10(62.5%)	7(53.8%)	12(54.5%)	113(76.9%)
Others	5(13.9%)	4(11.5%)	3(12%)	6(37.5%)	6(46.2%)	10(45.5%)	34(23.1%)
Totals	36	35	25	16	13	22	147

$\chi^2 = 14.4, 2 \text{ df } p < 0.001$

(males and females combined).

A hysterical premorbid personality was considered present in 19 females and only three males. Of the three males two had a poor clinical outcome and one a good outcome. In view of the small number of men showing this personality trait, it is clear that this trait cannot be of great practical clinical importance in male subjects.

In female patients, however, a hysterical premorbid personality is significantly related to a poor prognosis. (Table 175).

Table 175 - Hysterical Personality and Follow-up Status in Females

	Clinical State at Follow-up			
	I (Good)	II (Fair)	III (Poor)	
Hysterical Personality	3(8.3%)	9 (36%)	7(53.8%)	19
Others	33(91.7%)	16(64%)	6(46.1%)	55
Totals	36	25	13	74

$$\chi^2 = 12.48, 2 \text{ p} < 0.01$$

A cyclothymic personality was present in 11 patients (8 females, 3 males) and was associated with a good prognosis in 9 (Table 176).

Table 176 - Cyclothymic Personality and Follow-up Status

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Cyclothymic	6(16.7%)	3(8.6%)	1(2.4%)	0	1(7.7%)	0	11
Others	30(83.3%)	32(91.4%)	24(97.6%)	16(100%)	12(92.3%)	22(100%)	136
Totals	36	35	25	16	13	22	147

$$\chi^2 = 5.35, 1 \text{ df } p < 0.02$$

(males and females; groups II and III combined)

The presence of feelings of resentment was related to a bad prognosis in the male patients only (Table 177).

Table 177 - Feelings of Resentment and Follow-up Status in Males

	Clinical State at Follow-up			
	I (Good)	II (Fair)	III (Poor)	
Resentment	13(37.1%)	2(12.5%)	13(59.1%)	28
No resentment	22(62.9%)	14(87.5%)	9(40.9%)	45
Totals	35	16	22	73

$$\chi^2 = 8.55, 2 \text{ df } p < 0.02$$

Guilt related to sexual behaviour was significantly associated with a good prognosis (Table 178). In males the association was significant ( $\chi^2 = 9, 1 \text{ df } p < 0.01$ , combining groups II and III), but not in females ( $\chi^2 = 0.56, 1 \text{ df ns}$ , combining groups II and III).

Table 178 - Sexual Guilt and Follow-up Status

	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Sexual guilt	8(19.4%)	11(31.4%)	2(8%)	0	2(15.4%)	1(4.5%)	23(15.6%)
No sexual guilt	29(80.6%)	24(68.6%)	23(92%)	16(100%)	11(84.6%)	21(95.5%)	124(84.4%)
Totals	36	35	25	16	13	22	147

$$\chi^2 = 10, 2 \text{ df } p < 0.01$$

(males and females combined)

Patients who reported that they were made anxious about their health by reports or descriptions of diseases on radio, television, etc., tended to have a better prognosis (Table 179). This attained significance only with the frequencies for males and females combined.

Table 179 - Follow-up Status of Patients Frightened by Radio, Television etc.

	Clinical State at Follow-up						
	I (Good)		II (Fair)		III (Poor)		
	Females	Males	Females	Males	Females	Males	
Frightened by radio etc.	9(25%)	8(22.9%)	4(16%)	3(18.8%)	1(7.7%)	0	25(17%)
Others	27(75%)	27(77.1%)	21(84%)	13(81.2%)	12(92.3%)	32(100%)	122(83%)
Totals	36	35	25	16	13	22	147

$$\chi^2 = 7.4, 2 \text{ df } p < 0.025$$

(males and females combined)

Follow-up Study: Statistically Significant Findings

1. Males with the worst outcome were significantly older than males with a good or a fair outcome and also than females with a poor outcome.
2. Patients with a "fair" outcome were most likely to have been in prolonged contact with illness in a sibling.  
(Significant with sexes combined and in females. Male frequencies too small for Chi Square Test).
3. Males with a "fair" outcome were least likely to have a peer sexual adjustment.
4. Patients with a good outcome were more likely to have had an illness of shorter duration when first referred; the patients with a fair prognosis tend to have had the longest illness.  
(Significant in both sexes).
5. A diagnosis of endogenous depression was associated with a good outcome.  
(Not significant in males)
6. In female patients, symptoms referred to the chest were associated with a fair outcome and least common in patients with a good outcome.
7. Symptoms referred to the muscle-skeletal system were associated with a poor outcome.  
(Significant only with sexes combined).
8. The complaint of pain was associated with a better outcome.  
(significant only with sexes combined)

9. Fear of illness was associated with a better outcome.  
(not significant in females).
10. Spontaneous, non-reticent complaint behaviour was associated with a poor outcome.  
(in both sexes).
11. Patients who described their symptoms as continuous when they were first seen tended to have a worse outcome.  
(Significant only with sexes combined)
12. Patients who showed no response to reassurance when first seen tended to have a worse outcome.  
(Not significant in females).
13. The presence of organic pathology was associated with a poor outcome.  
(not significant in females).
14. Patients who had seen non-psychiatric consultants before referral tended to have worse outcome.  
(Not significant in males);)
15. Patients who were anxiety-prone personalities tended to have a better outcome.  
(not significant in females)
16. Females with a hysterical personality tended to have a worse outcome
17. A cyclothymic personality was associated with a good outcome.
18. Males who harboured feelings of resentment; tended to have a poor outcome.

19. The presence of guilt relating to sexual behaviour was associated with a good outcome.

(Not significant in females)

20. Patients who reported that they were made anxious about their health by reports or descriptions of diseases on the radio, television or in magazines tended to have a better outcome.

(Significant only with sexes combined)

Hypochondriasis and Endogenous Depression

In view of the excess of patients in the control sample who were diagnosed as endogenous depression, it seemed desirable to control this variable in relation to some of the differences found which might reasonably be considered due to the disparity between the hypochondriacal and control groups with regard to the incidence of endogenous depression.

Accordingly 25 patients from each sample were matched for sex, diagnosis of endogenous depression and as closely as possible for age (Table 180). The groups are referred to as hypochondriasis (D) and Control (D).

Table 180 - Sex and Age Distribution in Matched Hypochondriacal and Control Samples

		Age						
		15-24	25-34	35-44	45-54	55-64	65+	
<b>Males</b>								
Hypochondriasis (D)		0	1	4	2	6	1	14
Control (D)		0	0	5	2	5	2	14
<b>Females</b>								
Hypochondriasis (D)		0	3	2	3	2	1	11
Control (D)		0	3	1	4	2	1	11

The variable on which the matched groups have been compared are

- a) Duration of illness on referral to the Department of Psychiatry
- b) a history of a previous psychiatric illness
- c) a history of a previous psychiatric illness
- d) the presence of guilt feelings
- e) a premorbid cyclothymic personality
- f) clinical outcome

Duration of illness on first referral tended to be longer in the hypochondriacal patients (Table 181) but the differences did not attain statistical significance.

Table 181 - Duration of Illness on Referral in Matched Hypochondriacal and Control Patients

Duration of Illness (months)	Hypochondriasis (D)		Control (D)		
	Females	Males	Females	Males	
0 - 6	7	4	8	10	29
7 - 12	3	5	2	1	11
13 - 24	1	2	0	0	3
25+	0	3	1	3	7
	11	14	11	14	50

$\chi^2 = 3.97, 2 \text{ df ns}$  (males and females duration over 13 months combined)

As can be seen from Table 181 there is no significant association between the duration of the depressive illness on referral and the presence of hypochondriacal phenomena. However, in the case of the men there is obviously a tendency for those with hypochondriacal features to have had longer illness. If the males in each group are grouped into those with an illness of six months or less and those with an illness of more than six months duration, inverse association between a short illness and the presence of hypochondriacal features is fairly marked, but not significant ( $\chi^2 = 3.6, 1 \text{ df ns}$ ).

A history of suicidal attempt was commoner in the non-hypochondriacal depressed patients (Table 182). Only two of the hypochondriacal patients gave such a history. This finding did not, however, attain statistical significance.

Table 182 - History of Suicidal Attempt (Matched groups)

	Hypochondriasis (D)		Control (D)		
	Female	Male	Female	Male	
Previous Psychiatric Illness	2	6	4	5	17
No previous psychiatric Illness	9	8	7	9	33
	11	14	11	14	50

not significant on inspection

Guilt feelings were present in more of the non-hypochondriacal than control patients but not significant association was found (Table 184).

Table 184 - Guilt Feelings (matched groups).

	Hypochondriasis (D)		Control (D)		
	Female	Male	Female	Male	
Guilt feelings	3	1	5	4	13
No guilt feelings	8	13	6	10	37
	11	14	11	14	50

$$\chi^2 = 1.7, \text{ df ns}$$

(males and females combined)

Cyclothymic premorbid personalities were also commoner in the non-hypochondriacal patients but once again the finding was not statistically significant. (Table 185).

Table 185 - Cyclothymic Premorbid Personality (matched groups)

	Hypochondriasis (D)		Control (D)		
	Female	Male	Female	Male	
Cyclothymic personality	1	1	4	2	8
Other	10	13	7	12	42
	11	14	7	14	50

$$\chi^2 = 1.34, \text{ 1 df ns}$$

(males and females combined)

The clinical outcome is based on the patient's overall condition when last seen and has been graded as "symptom free", "much improved", "slightly improved" and "unchanged". The findings are shown in Table 186. There was one suicide among the non-hypochondriacal females and none in the hypochondriacal group. If the sexes are combined it is clear that there is little difference between the two samples - both having 19 subjects who were symptom free or much improved. However, when each sex is considered separately, it would appear that the male hypochondriacal depressives have a worse prognosis than their controls while the female hypochondriacal depressives have a better outcome than their controls.

Table 186 - Clinical Outcome in Matched Hypochondriacal and Control Patients

	Hypochondriasis (D)		Control (D)		
	Female	Male	Female	Male	
Symptom free	3	1	3	4	11
Much improved	7	8	3	9	27
Slightly improved	0	3	2	0	5
Unchanged	1	2	2	1	6
Totals	11	14	10	14	49

Comparison of Matched Hypochondriacal and Control Patients Diagnosed as  
Endogenous Depression: Summary of Findings.

The two groups were compared with regard to six variables:

- a) duration of illness on referral to the Department of Psychiatry;
- b) a history of a suicidal attempt; c) a history of a previous psychiatric illness; d) the presence of guilt feelings; e) a premonitory cyclothymic personality and f) clinical outcome.

No significant associations were found but the direction of differences found were the same as those in the comparison of the unmatched samples with the exception of a history of a previous psychiatric illness. The incidence of this finding was virtually the same in both the hypochondriacal and control depressive samples.

"Primary" and "Secondary" Hypochondriasis

In order to examine the validity of considering hypochondriasis as an entity, it was decided to compare those of the 147 personally studied cases who had been diagnosed as "hypochondriasis" with those in whom some other diagnosis had been made. Thus patients in whom hypochondriasis was considered the "primary" condition were compared with those in whom it was considered "secondary". The two groups will be referred as "Primary hypochondriasis sample" and "Secondary hypochondriasis sample".

As previously noted "Primary Hypochondriasis" was diagnosed in 66 of the 147 patients. The age and sex distribution of the primary and secondary groups are shown in Table 187.

Table 187 - Age and Sex Characteristics of Primary and Secondary Hypochondriasis Samples

Age	Females		Males		
	Primary	Secondary	Primary	Secondary	
15 - 24	2 (6.9%)	1 (2.2%)	4 (10.8%)	1 (2.8%)	8
25 - 34	7 (24.1%)	14 (31.1%)	8 (21.6%)	6 (16.7%)	35
35 - 44	3 (10.3%)	11 (24.4%)	7 (18.9%)	10 (27.8%)	31
45 - 54	8 (27.6%)	12 (26.7%)	7 (18.9%)	10 (27.8%)	37
55 - 64	7 (24.1%)	5 (11.1%)	10 (27%)	8 (22.2%)	30
65+	2 (6.9%)	2 (4.4%)	1 (2.7%)	1 (2.8%)	6
	29	45	37	36	147
Mean Age	45.3	42.1	42.8	44.7	
Standard Deviation	14.8	9.97	13.6	11.1	

The primary and secondary groups did not differ significantly with regard to the sex distributions ( $\chi^2 = 1.96$ , 1 df  $p > 0.05$ ). The mean ages of the two groups did not differ significantly nor was there any association between either group and age (females:  $\chi^2 = 3.84$ , df ns, males:  $\chi^2 = 2.56$ , 3 df ns).

The association between social class and primary and secondary hypochondriasis was significant when the sexes were examined separately but not when combined. Table 188 shows the distribution by social class of the female primary and secondary hypochondriacal patients.

Table 188 - Social Class in Female Primary and Secondary Hypochondriacal Patients

	Social Class					
	1 + 2	3 + 4	5	6	7	
Primary	1 (3.4%)	2 (6.9%)	12 (41.4%)	10 (34.5%)	4 (13.8%)	29
Secondary	0	1 (2.2%)	12 (26.7%)	15 (33.3%)	17 (37.8%)	45
Totals	1	3	24	25	21	74

$$\chi^2 = 6.01, 2 \text{ df } p < 0.05$$

(combining social classes 1 to 5)

As can be seen from Table 188, in females primary hypochondriasis is associated with a higher social class. There is in particular an over-representation of social class 5 (skilled manual or routine non-manual occupations) and fewer unskilled manual occupations (social class 7).

In the case of the male patients a different but statistically significant association is found (Table 189).

Table 189 - Social Class in Male Primary and Secondary Hypochondriacal Patients

	Social Class					
	1 + 2	3 + 4	5	6	7	
Primary	1 (2.7%)	2 (5.4%)	8 (21.6%)	18 (48.6%)	8 (21.6%)	37
Secondary	0	4 (11.1%)	14 (38.9%)	7 (19.4%)	11 (30.6%)	36
Totals	1	6	22	25	19	73

$$\chi^2 = 6.99, 2 \text{ df } p < 0.05$$

(combining social classes 1 - 5)

In the case of the male patients with primary hypochondriasis it is the semi-skilled occupations which are over-represented.

In the family history only one variable differentiated significantly between primary and secondary hypochondriacal male (but not female) patients: a history of the patient's father having been hypochondriacal (Table 190), was associated with primary hypochondriasis.

Table 190 - Father Hypochondriacal: Primary and Secondary Hypochondriacal Patients

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Father hypochondriacal	5(17.2%)	12(26.7%)	15(40.5%)	5(13.9%)	37
Others	24(82.8%)	33(73.3%)	22(59.5%)	31(86.1%)	110
Totals	29	45	37	36	147

$\chi^2 = 0.89, 1 \text{ df}$        $\chi^2 = 5.2, 1 \text{ df } p < 0.05$   
 combining sexes,  $\chi^2 = 1.68, 1 \text{ df } \text{ns}$

A number of clinical features differentiated significantly between primary and secondary hypochondriacal patients.

The duration of the illness at the time of first referral tended to be longer in "primary" hypochondriacal patients (Table 191).

Table 191 - Duration of Illness on Referral in Primary and Secondary Hypochondriacal Patients

	Duration of Illness (months)				
	0 - 6	7 - 12	13 - 24	25 +	
Females					
Primary	1(3.4%)	4(13.8%)	9(31%)	15(51.7%)	29
Secondary	16(35.6%)	8(17.8%)	9(20%)	12(26.7%)	45
Males					
Primary	8(21.6%)	3(8.1%)	10(27%)	16(43.2%)	37
Secondary	13(36.1%)	7(19.4%)	2(5.6%)	14(38.9%)	36

38                      22                      30                      57                      147

$\chi^2 = 16.89, 3 \text{ df } p < 0.001$  (sexes combined)

The association between primary hypochondriasis and an illness of longer duration on first referral is present in the males and the females. In the females  $\chi^2 = 9.78$  ( 2 df  $p < 0.001$ , patients with histories of 0 - 12 months combined). In the case of the males,  $\chi^2 = 8.07$ , 2 df  $p < 0.02$ , (patients with histories of 0 - 12 months combined).

There were some differences in the symptomatology of the primary and secondary hypochondriacal subjects.

The presence of a fear of illness which might befall one in the future was associated with secondary hypochondriasis. Although the trend was present in both sexes it was significant only in the females (Table 192).

Table 192 - Fear of Illness in Primary and Secondary Hypochondriasis.

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Fear of Illness	6(20.7%)	21(46.7%)	11(29.7%)	14(38.9%)	52
No Fear of Illness	23(79.3%)	24(53.3%)	26(70.3%)	22(61.1%)	95
Totals	29	45	37	36	147
	$\chi^2 = 4.08$ , 1 df $p < 0.05$		$\chi^2 = 0.33$ , 1 df ns		
Overall	$\chi^2 = 4.1$ , 1 df $p < 0.05$ (sexes combined-)				

Two types of complaint were commoner in patients with primary hypochondriasis.

Complaints referred to the musculo-skeletal system (Table 193) were commoner in patients with primary hypochondriasis.

Table 193 - Complaints involving Musculo-Skeletal System in Primary and Secondary Hypochondriasis

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Musculo-Skeletal Complaints	13(44.8%)	8(17.8%)	15(40.5%)	11(30.6%)	47
Others	16(55.2%)	37(82.2%)	22(59.5%)	25(69.4%)	100
Total	29	45	37	36	147

$\chi^2 = 5.09, 1 \text{ df } p < 0.05$      $\chi^2 = 0.42, 1 \text{ df } ns$   
 combining sexes  $\chi^2 = 6.02, 1 \text{ df } p < 0.02$

The association between musculo-skeletal complaints and primary hypochondriasis (Table 193) is present in the males and the females, but it does not reach significance in the former.

Complaints involving the skin, hair or appearance were rather uncommon but showed a significant association with primary hypochondriasis. Because of the small numbers the figures for the males and females have been combined (Table 194).

Table 194 - Complaints Involving Skin, Hair or Appearance and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
Skin, hair, etc.	4(13.8%)	1(2.2%)	4(10.8%)	1(2.8%)	10
Other	25(86.2%)	44(97.8%)	33(99.2%)	35(97.2%)	137

$\chi^2 = 3.9, 1 \text{ df } p < 0.05$

(combining sexes)

Obsessional symptoms were present in 19 (28.8%) of the primary and 14 (17.3%) of the secondary hypochondriacal patients. This finding was not significant but the association between obsessional symptoms and primary hypochondriasis was significant in the case of the female patients (Table 195).

Table 195 - Obsessional Symptoms in Primary and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
Obsessional symptoms	11(37.9%)	4(8.9%)	8(21.6%)	10(27.8%)	33
No Obsessional symptoms	18(62.1%)	41(91.1%)	29(78.4%)	26(72.2%)	114
Totals	29	45	37	36	147

$\chi^2 = 7.5, 1 \text{ df } \chi^2 = 2.76 1 \text{ df } ns$

Depersonalization was significantly commoner in secondary hypochondriasis.

Table 196 - Depersonalization in Primary and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
Depersonalization	4(13.8%)	13(28.9%)	2(5.4%)	9(25%)	28
No Depersonalization	25(86.2%)	32(71.1%)	35(94.6%)	27(75%)	119
Totals	29	45	37	36	147

$$\chi^2 = 2.27, 1 \text{ df ns} \quad \chi^2 = 4.1, 1 \text{ df } p < 0.05$$

$$\text{combining sexes: } \chi^2 = 6.57, 1 \text{ df } p < 0.02$$

As can be seen from Table 196, depersonalization was commoner in secondary hypochondriasis in both sexes but this was significant only in the males.

A poor sexual adjustment was associated significantly with secondary hypochondriasis in the case of the male patients. In females a poor sexual adjustment was commoner in the patients with primary hypochondriasis, but this was not significant (Table 197).

Table 197 - Sexual Adjustment in Primary and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
Poor sexual adjustment	18(62.1%)	25(55.6%)	10(27%)	18(50%)	71
Good sexual adjustment	11(37.9%)	20(44.4%)	27(73%)	18(50%)	76
Totals	29	45	37	36	147

$$\chi^2 = 0.31, 1 \text{ df ns} \quad \chi^2 = 4.1, 1 \text{ df } p < 0.05$$

$$\text{combining sexes: } \chi^2 = 1.3, 1 \text{ df ns}$$

A history of a suicidal attempt was commoner in patients with secondary hypochondriasis (Table 198).

Table 198 - History of Suicidal Attempt in Primary and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
History of suicidal attempt	1(3.4%)	8(17.8%)	2(5.4%)	4(11.1%)	15
No history of suicidal attempt	28(96.6%)	37(82.2%)	35(94.6%)	32(88.9%)	132
Totals	29	45	37	36	147

$$\chi^2 = 4.2, \quad 1 \text{ df} \quad p < 0.05$$

(sexes combined)

Premorbid personality differed in only one regard between "primary" and "secondary" hypochondriacal patients: an anxiety-prone personality was associated significantly with secondary hypochondriasis. This finding was not significant in the female patients but was significant in the males (Table 199).

Table 199 - Anxiety-Prone Premorbid Personality in Primary and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
Anxiety-prone	23(79.3%)	37(82.2%)	22(59.5%)	31(86.1%)	113
Others	6(20.7%)	8(17.8%)	15(40.5%)	5(13.9%)	34
Totals	29	45	37	36	147

$$\chi^2 = 0.1, \text{ df ns} \quad \chi^2 = 5.24 \text{ df } p < 0.05$$

combining sexes:  $\chi^2 = 4.24, \quad 1 \text{ df} \quad p < 0.05$

In the female primary hypochondriacal patients the commonest premorbid personalities were the obsessional (79.3%), the anxiety-prone(79.3%) sensitive (55.1%) and hypochondriacal (41.3%). In the female secondary hypochondriacal patients the commonest premorbid personalities were the anxiety-prone (82.2%), the obsessional (80%), hypochondriacal (57.8%) and sensitive (46%).

Similarly in the male primary hypochondriacal subjects, the obsessional personality is commonest (83.8%), followed by the hypochondriacal (64.9%), anxiety prone (59.5%) and sensitive (43.2%).

In the male secondary hypochondriacal patients (as in the females) the anxiety-prone personality was commonest (86.1%) followed by obsessional (75%), hypochondriacal (69.4%) and the sensitive (38.9%).

A history of previous psychiatric illness was associated with secondary hypochondriasis and this was statistically significant (Table 200).

Table 200 - Previous Psychiatric Illness in Primary and Secondary Hypochondriasis

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Previous psychiatric illness	1(3.4%)	9(20%)	4(10.8%)	8(22.2%)	22
No previous psychiatric illness	28(96.6%)	36(80%)	33(89.2%)	28(77.8%)	125
Totals	29	45	37	36	147

$$\chi^2 = 4.14, 1 \text{ df } p < 0.05$$

(sexes combined)

Treatment differed in the primary and secondary hypochondriacal patients

with regard to the use of electro-convulsive therapy, antidepressants and sedatives.

Electro-convulsive therapy (E.C.T.) was administered to more patients with secondary than with primary hypochondriasis (Table 201). This finding was significant.

Table 201 - Use of Electro-convulsive Therapy in Primary and Secondary Hypochondriasis

	Female		Male		
	Primary	Secondary	Primary	Secondary	
E.C.T. used	1(3.4%)	12(26.7%)	4(10.8%)	18(50%)	35(23.8%)
No E.C.T. used	28(96.6%)	33(73.3%)	33(89.2%)	18(50%)	112(76.2%)
Totals	29	45	37	36	147

$$\chi^2 = 5.06 \quad 1 \text{ df} \quad p < 0.05 \quad \chi^2 = 15.8, \quad 1 \text{ df} \quad p < 0.001$$

Antidepressants were also used in more secondary than primary hypochondriacal patients and this finding was also significant. Although this was the case in males and females, it was not statistically significant in the females (Table 202).

Table 202 - Use of Antidepressants in Primary and Secondary Hypochondriasis

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Antidepressants used	12(41.4%)	27(60%)	15(40.5%)	28(77.8%)	82(55.8%)
No antidepressants used	17(58.6%)	18(40%)	22(59.5%)	8(22.2%)	65(44.2%)
Totals	29	45	37	36	147

$\chi^2 = 2.45, 1 \text{ df ns}$        $\chi^2 = 8.97, 1 \text{ df } p < 0.01$

combining sexes:  $\chi^2 = 9.0, 1 \text{ df } p < 0.01$

Sedatives, however, were used in more primary than secondary hypochondriacal patients, but this finding was significant only in the case of the male patients (Table 203).

Table 203 - The use of Sedatives in Primary and Secondary Hypochondriasis

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Sedatives used	21(72.4%)	34(75.6%)	33(89.2%)	20(55.6%)	108(73.5%)
No sedatives used	8(27.6%)	11(24.4%)	4(10.8%)	16(44.4%)	39(26.5%)
Totals	29	45	37	36	147

$\chi^2 = 0.09, 1 \text{ df ns}$        $\chi^2 = 8.4, 1 \text{ df } p < 0.01$

combining sexes,  $\chi^2 = 3.54, 1 \text{ df ns}$

Outcome was not significantly related to primary or secondary hypochondriasis although it can be seen from Table 204 that there is a tendency for patients with primary hypochondriasis to do worse. The patients have been categorised into the three follow-up groups which were defined in the section on prognosis.

Table 204 - Outcome of Primary and Secondary Hypochondriasis

	Clinical State at Follow-up					
	Females			Males		
	I (Good)	II (Fair)	III (Poor)	I(Good)	II(Fair)	III(Poor)
Primary	12(33.3%)	13(52%)	4(30.8%)	13(37.1%)	10(62.5%)	14(63.6%)
Secondary	24(66.6%)	12(48%)	9(69.2%)	22 (62.9%)	6(37.5%)	8(36.4%)
Totals	36	25	13	35	16	22

$$\chi^2 = 2.63, 2 \text{ df ns}$$

$$\chi^2 = 4.94, 2 \text{ df ns}$$

$$\text{combining sexes: } \chi^2 = 5.37, 2 \text{ df ns}$$

This masks the fact that patients with primary hypochondriasis were more likely to describe their symptoms as continuous at follow-up (Table 205).

Table 205 - Continuous and Non-continuous Symptoms at Follow-up  
in Primary and Secondary Hypochondriasis

Symptoms	Females		Males		
	Primary	Secondary	Primary	Secondary	
Absent	3(10.4%)	7(15.6%)	3(8.1%)	3(8.3%)	16
Occasional	9(31%)	17(37.8%)	10(27%)	19(52.8%)	55
Most of time	8(27.6%)	9(20%)	5(13.5%)	8(22.2%)	30
All the time	9(31%)	12(26.7%)	19(51.4%)	6(16.7%)	46
Totals	29	45	37	36	147

$\chi^2 = 1.14, 3 \text{ df ns}$        $\chi^2 = 9.75, 2 \text{ df } p < 0.01$

combining sexes,  $\chi^2 = 7.51, 3 \text{ df ns}$

There was no association between symptoms being described as continuous or non-continuous on admission, and primary or secondary hypochondriasis.

When the disposal of patients is examined, there is very little difference between the primary and secondary hypochondriacal patients except that in the case of the males a higher percentage ceased attending of their own accord (Table 206).

Table 206 - Disposal in Primary and Secondary Hypochondriasis

	Females		Males		
	Primary	Secondary	Primary	Secondary	
Discharged	12(41.3%)	17(37.6%)	10(27%)	16(44.4%)	55
Still attending	10(34.5%)	16(35.6%)	16(43.2%)	15(41.6%)	57
Did not attend	7(24.1%)	12(26.7%)	11(29.7%)	5(13.9%)	35
	29	45	37	36	147

$\chi^2 = 0.11, 1 \text{ df ns}$        $\chi^2 = 3.65, 2 \text{ df ns}$

combining sexes:  $\chi^2 = 1.15, 1 \text{ df ns}$

Comparisons of Patients with "Primary" and "Secondary" Hypochondriasis:

Statistically Significant Findings

1. In females "primary" hypochondriasis was associated with a higher social class grading.
2. In males "primary" hypochondriasis was associated with a lower social class grading.
3. In males a history of a father who was hypochondriacal was associated with "primary" hypochondriasis.
4. Patients with primary hypochondriasis tended to have had a longer illness when first referred.
5. Fears of illness were associated with "secondary" hypochondriasis (not significant in males).
6. Symptoms referred to the muscle-skeletal system were associated with "primary" hypochondriasis (not significant in males).
7. Complaints involving the skin, hair or appearance were associated with "primary" hypochondriasis.
8. In females the presence of obsessional symptoms was associated with "primary" hypochondriasis.
9. Depersonalization was associated with "secondary" hypochondriasis (not significant in females).
10. In males, a peer sexual adjustment was associated with "secondary" hypochondriasis.
11. A history of a suicidal attempt was associated with "secondary" hypochondriasis.
12. Patients with "secondary" hypochondriasis were more likely to have an

anxiety-prone personality.

13. A history of a previous psychiatric illness was associated with "secondary" hypochondriasis.
14. The administration of electro-convulsive therapy tended to be more common in patients with "secondary" hypochondriasis.
15. Antidepressants tended to be prescribed to more patients with "secondary" hypochondriasis (not significant in females).
16. In males sedatives tended to be prescribed to more patients with "secondary" hypochondriasis.
17. Males with "primary" hypochondriasis were more likely to describe their symptoms as continuous at follow-up.

Chapter III:

The Present Study

Discussion.

DISCUSSION

The Two Samples

In this study two different patient samples have been investigated. The first comprised 300 newly referred patients, of whom 114 manifested hypochondriacal phenomena and 186 did not. The purpose of this part of the investigation was to study certain aspects of hypochondriasis in a sample which was relatively unselected. In view of the generally accepted low incidence of patients who showed hypochondriacal phenomena as the most prominent or even the only features of their illness, it was realised that an attempt to collect a consecutive series of cases would take a period of time which would make such a project impractical. Impressionistic evidence also suggested that an appreciable number of hypochondriacal patients were being seen in follow-up clinics and would therefore not be included in a sample unless subjects were drawn from all settings within the department.

The second sample of patients was therefore drawn from those seen during the course of the author's routine clinical duties. In addition, colleagues were asked to refer patients in whom hypochondriacal phenomena were the most prominent clinical features. This, most of the Doctors did gladly. The patients were transferred to the author's care and continued to be seen by him under Consultant supervision. Thus all patients in this sample were studied personally by the author and were included in the sample only if the criteria earlier described were fulfilled. The sample comprised 147 hypochondriacal and 65 non-hypochondriacal subjects. The latter were collected and studied in the same way as the hypochondriacal patients had been.

The two control series differ in that the personal series constitutes an older group. The under 24 age group in particular is less common in the personal series of subjects. The hypochondriacal samples differ very little with regard to age.

It is clear from Table 207 and 208 that although there are no marked differences between the new referrals and the personally studied cases with regard to male: female proportions, there are differences in the age distribution, in that the personal series constitutes an older group. The under 24 age group in particular is less common in the personal series of subjects. The hypochondriacal samples differ very little with regard to age.

It seemed useful, therefore, to compare hypochondriacal and non-hypochondriacal patients in the new-patient setting so that differences could be demonstrated at a stage before further selection factors masked their presence. This has also had the effect of allowing comparisons in the personal series to be made between hypochondriacal and control patients who do not differ markedly with regard to age.

In discussing the results of this study, the new patient survey and the personal investigation will be considered separately and then a synthesis will be attempted.

In order to compare the corresponding samples of hypechendriacal and control patients from the newly referred and personal series, the data with regard to sex and age is shown in Table 207 and 208.

**Table 207: Sex Ratios in Newly Referred and Personal Series**

	Hypechendriacal		Control	
	New Referrals	Personal	New Referrals	Personal
Males	53 (46.5%)	73 (49.7%)	81 (43.5%)	25 (38.4%)
Females	61 (53.5%)	74 (50.3%)	105 (56.5%)	40 (61.5%)
<b><u>TOTAL:</u></b>	114	147	186	65

**Table 208: Age Distribution in Newly-Referred and Personal Series**

**(Males and Females Combined)**

	0 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 +	
Hypechendriacal: New Referrals	10(8.8%)	25(21.9%)	30(26.3%)	30(26.3%)	14(12.3%)	5(4.4%)	114
Personal Series	8(5.4%)	35(23.8%)	31(20.4%)	37(25.2%)	30(18%)	6(4.1%)	147
Control: New Referrals	49(26.3%)	50(26.9%)	31(16.7%)	27(14.5%)	21(11.3%)	8(4.3%)	186
Personal Series	3(4.6%)	14(21.5%)	20(30.8%)	15(23.1%)	8(12.3%)	5(7.7%)	65

The New Referral Study: Discussion of Findings

Incidence

As was pointed out earlier it is important to distinguish between the incidence of hypochondriasis as a diagnostic entity and of hypochondriacal phenomena which present in other clinical syndromes.

In the present study eight (2.7%) of the 300 patients were diagnosed as "Hypochondriasis". This finding is within the range reported by previous workers. (Brown 1936, Woodside 1954, Ladee 1961, and Kenyon 1964).

Even when results of studies carried out in some rather different populations are considered, the findings tend to be the same. Thus Ross (1928) in England found an incidence of 1.2% in a survey of 1,500 male mental hospital patients over 60 years of age who were neither psychotic nor demented. Rickels et al (1949) in the United States, reported a 2% incidence in 100 consecutive patients referred for private psychiatric treatment.

Hypochondriacal phenomena, however, are rather common as a feature of psychiatric illness. In the present survey of 300 newly-referred patients the incidence was 38%. The only study in a comparable setting which reports on the incidence of hypochondriacal phenomena or symptoms is that of F. Brown (1936) who found an incidence of 45%. Brown's rather broad definition may account for the higher incidence.

The incidence of hypochondriacal phenomena in depressive illness has been found to be 48.3% in "endogenous depression" and 32.7% in "neurotic depression". This is also similar to that reported by previous workers. (Lewis 1934, Brown 1936, Grinker et al 1961,

Kileh and Garside 1963).

In non-depressive psyche-neurotic conditions such as anxiety and hysterical states, hypochondriacal phenomena were once again commonly encountered. Of patients diagnosed "anxiety-hysteria" 56.3% showed hypochondriacal features. This is in keeping with Shirvaikar's (1957) finding, that this was the diagnosis most commonly associated with hypochondriacal symptoms.

On the basis of the foregoing findings, it may be concluded that while hypochondriacal phenomena are relatively common, "primary hypochondriasis" is a diagnosis which is not often made. The degree of agreement between various studies, despite differences in diagnostic criteria and methodology, is surprisingly good.

#### Sex and Age Distribution

With regard to the sex ratio in newly referred patients showing hypochondriacal phenomena, there was no significant association with either sex. This was also the case in the personally studied patients. This finding is in keeping with that of previous workers who have surveyed large series of subjects (Brown 1936, Katzenelbogen 1942, Shirvaiker 1957, Ladoo 1951, Ray and Advani 1962, Kenyon 1964).

The hypochondriacal patients tended to be older than the controls although they were found in all age groups. The peak age incidence for hypochondriacal patients was in the 35-54 year range - a finding similar to that of Ray and Advani (1962) who reported a peak incidence in the 36-50 year range, Kenyon (1964) who found a peak in the 30-49 year age range. The peak in the under 24 year group which might have been anticipated by the writings of Schilder (1930), Kretschmer (1952) and

Rosenfield (1958) was not encountered. In fact, this was an age group which was particularly under-represented among the hypochondriacal patients.

Male and female hypochondriacal patients differed with regard to age distributions in that there were more males in the 25-34 and 55-64 year ranges. Furthermore, the male hypochondriacal patients were not significantly older than the male controls while the female hypochondriacal patients were significantly older than their controls.

There are no studies in which hypochondriacal patients have been compared with controls on the age variable and it is therefore not possible to draw any valid comparisons. This question will be discussed further when the findings on the personal sample are considered.

#### Civil Status

In common with Ray and Advani (1962) and Kenyon (1964) hypochondriacal patients have been found more likely to be married. This finding must, however, be considered in conjunction with the greater age of the hypochondriacal patients. The significance of this becomes clearer when the males and females are considered separately. It can now be seen that the males (who were not found to differ significantly in age from their controls) do not include a significantly higher proportion of married subjects. However, the female hypochondriacal patients were significantly older than their controls and do contain a significantly

greater proportion of married subjects. This difference is obviously related to the preponderance of females under 24 years of age in the control group.

### Social Class

A significant tendency for hypochondriacal patients to have unskilled occupations was found. This was present but not significant in the case of the male hypochondriacal subjects. Because of the great variety of social class gradings employed by authors, it is not possible to make satisfactory comparisons. However, the association between hypochondriacal phenomena and lower social classes has been noted by a number of writers (Hollingshead & Redlich 1958, Michael 1960, Brill & Sterrow 1960, Ray & Advani 1962, Langner & Michael 1963). Kenyon (1964) did not find this and the possible explanation will be discussed later.

### Size of Family

No previous studies have suggested that any relationship exists between hypochondriasis and the number of children a patient has. In this survey hypochondriacal females tend to have more children than their controls. The explanation for this probably lies in the fact that hypochondriacal females are from lower social classes, who are known to have larger families.

### Diagnosis

The statistically significant findings with regard to diagnosis present an interesting pattern. The presence of hypochondriacal phenomena was associated with the diagnoses of anxiety-hysteria and endogenous depression. An absence of hypochondriacal symptoms was associated with a

referral following a suicidal attempt related to a reactive depression; and also a history of suicidal attempts in general. This was not significant in the case of the male patients but it is of interest that not one male hypochondriacal patient presented following a suicidal attempt. Psycho-sexual disorders were significantly associated with an absence of hypochondriacal symptoms in men. No females with psycho-sexual disorders were diagnosed in this sample.

Nine patients (3%) in the total sample were considered to be suffering from alcoholism, of whom only one showed hypochondriacal symptoms.

These findings are in keeping with those of Stenback and Blumenthal (1964) who suggest that chronic alcoholism and suicidal behaviour represent "a wish to be killed" while "hypochondria" is related to "a fear of getting killed". Unfortunately, these authors do not report the age distributions in their samples and it is therefore difficult to evaluate their findings. In the present study the negative association between suicidal attempts and hypochondriacal symptoms seems to be, at least in part, due to the preponderance of patients under 24 years of age in the non-hypochondriacal patients. Another inference which may be drawn is that these two groups of patients reflect the two main types of behaviour which may bring a patient to a psychiatrist. The first form of behaviour, which is shown by patients who attempt suicide, are dependent on alcohol or manifest psycho-sexual disorders in such a way as to conflict with society, may be described as "acting-out behaviour". In fact, in these patients, the

problem is communicated in mere verbal terms. The finding that endogenous depression is associated with hypochondriacal symptoms in men is less easily explained particularly as the findings differ from that in the personal series. For this reason it seems best to discuss this finding together with those in the personal series.

The Personal Study of 147 Hypochondriacal and  
65 Non-Hypochondriacal Patients.

Discussion

There were no statistically significant findings with regard to the sex and age of the patients in this series. The peak in adolescence described by Schilder (1930), Kretschmer (1952) and Rosenfeld (1958) was not found. The females showed a peak in the 25-34 and 45-54 year age groups, while the bulk of the males were evenly distributed in the 35-64 year age span.

Since the ages of the hypochondriacal and control groups do not differ significantly in this sample, it is not surprising that there is no significant difference in the number of married subjects in each group, as was found in the new-patient survey. However, it is of interest that 16 (21.9%) of the hypochondriacal males were unmarried as opposed to two (8%) of the male controls. This may reflect a reluctance or inability of hypochondriacal individuals to establish relationships which demand a shifting of attention from the self to others, and also the acceptance of responsibility for others. This attitude would not be expected in females who might welcome a marriage in which a dependant relationship could be expected, given the conventional image of the female role in marriage.

### Social Class

The association between a low social class grading and the presence of hypochondriacal phenomena has been found in the personal series as highly significant, both in the male and female subjects. The male hypochondriacal patients are particularly over-represented in the unskilled occupations while the female hypochondriacal patients predominate in the semi and unskilled categories. These findings support those of a number of previous investigators (Hollingshead & Redlich 1958, Michael 1960, Brill and Storrov 1960, Downing & Rickels 1962, Ray & Advani 1962, Langner & Michael 1963, Rickels et al 1964). Kenyon (1964), whose study might be considered most comparable to the present one, did not find any association between hypochondriasis and the lower social classes. This may be due to a difference in patient selection. Kenyon (1964) furnishes figures which show that 23.6% of all patients treated at the Maudsley and Bethlem Royal Hospitals between 1951 and 1960 belonged to the lowest two social classes (semi-skilled and unskilled manual occupations). The present study has shown that 54.3% of all new patients referred to the Department of Psychiatry of the United Sheffield Hospitals belonged to these two social classes. This difference may be due to the fact that the Maudsley Hospital is highly specialised and does not serve a specific area, while the clientele of the Sheffield Teaching Hospital can be regarded as representative of the city population.

The association between low occupational status and hypochondriacal illness may have a number of explanations. It is possible that a low social status is related to low intelligence - particular verbal - and therefore there is a tendency to communicate distress in simple bodily terms when confronted by an illness with physical and psychological components, since the latter may require a higher degree of verbal facility for their communication. In the present study, however, no association has been found between hypochondriacal illness and verbal intelligence.

The second possibility is that, given the same symptoms, an individual is more likely to complain of those which interfere with his occupation. Thus semi-skilled and unskilled manual workers, who expend more physical effort than any other occupational group, are most likely to become aware of physical symptoms. It is also possible that the more an individual is engaged in physical activities, the more aware he becomes of his bodily functions, whether normal or not.

The concept of illness as a "social role" provides another approach to the elucidation of this question. Talcott Parsons (1964) has delineated the main features of the sick role as follows:-

"(1) It is a partially and conditionally legitimated state in which others are expected to treat the sick person with compassion, support and help; but it is not to be evaluated as in itself a "good thing".

(2) It is the basis of a series of legitimized exemptions from the

fulfilment of normal expectations, in work, family obligations and even in showing consideration and good temper towards others.

(3) Through the conception of incapacity the individual is not held responsible for his state, in the sense that he could be expected to become well through "pulling himself together" by an act of will and

(4) It has a definitely ascribed goal of action which is given priority over other goals, namely to "get well". The patient himself is expected both to seek competent technical help and to co-operate actively with therapeutic personnel in getting well.

Parson's second point is perhaps the one of greatest relevance to this discussion. It suggests that the symptoms which are most likely to cast an individual in the role of an ill person would be those that interfere with his obligations at work and at home. It seems reasonable to suppose that a manual worker is more likely to regard bodily symptoms which impair physical efficiency as legitimate evidence of illness, rather than psychological symptoms which cannot be shown to interfere with his work activities in any direct way.

### Clinical Aspects

As might be expected, hypochondriacal patients were more likely to have been referred from a non-psychiatric hospital department and tended to have been referred to more non-psychiatric departments during the course of their illness. This may in part explain the greater duration of illness before referral to the Department of Psychiatry which was reported by hypochondriacal patients. On the other hand, it might be argued that hypochondriacal patients tend to over-exaggerate the severity of their illness in terms of duration and intensity. This is not an easy point to assess but in most cases, the patient's relative confirmed the history which had been given.

It seems reasonable for the patient's family doctor to refer a patient who complains of puzzling physical symptoms to a non-psychiatric consultant in the first instance. However, it would seem desirable to make a psychiatric evaluation as early as possible so as to avoid investigations or procedures which may possibly be unnecessary. It is, of course realised that hypochondriacal patients often resist being referred to a psychiatrist and almost coerce their doctors into carrying out further investigations. However, it was noted that in many patients the previous concentration by doctors on the physical aspects of the case had reinforced the patient's belief that the problem was a physical one and made management along psychological lines extremely difficult for them to accept.

The fact that hypochondriacal subjects tended to be drawn from the new-patient and follow-up clinics as opposed to the in-patient and day-patient units is not easily explained, but may relate to the fact that a history of suicidal attempts was commoner in the non-hypochondriacal patients. In addition, the latter patients (in the personal series) were more likely to have been diagnosed as endogenous depression. Since this study has been carried out in a department which is particularly alive to the questions of suicide and attempted suicide, patients who manifest such behaviour or show the possibility of doing so in the future are very carefully sought out and are more likely to be admitted. This seems the most likely explanation of the excess of non-hypochondriacal patients in the day hospital and in-patient units. Another possibility may be the reluctance of patients who regard their illness as physical to accept admission to the wards of a psychiatric department. Certainly, many hypochondriacal patients felt that their referral to a psychiatric department represented a rejection by their previous doctors, and preferred their friends not to know about it.

#### Symptomatology

There has been close correspondence between previous studies (Shirvaiker 1957, Katzenelbogen 1942 and Kenyon 1964) regarding the regions of the body to which symptoms were most commonly referred. In the present study the regions most frequently involved are also the head and neck, chest and abdomen. As in Kenyon's (1964) investigation, the region next in frequency was the back. In addition, there is agreement with Kenyon's (1964) finding that the two systems

most commonly involved are the gastrointestinal and musculo-skeletal. It is striking that from the earliest days of medicine to the present time the descriptions of the symptoms of hypochondriacal illness have remained so remarkably similar; particularly the abdominal symptoms which were long considered the cardinal feature of hypochondriasis and are indeed enshrined in the very name of the condition.

In order to compare the complaint behaviour of hypochondriacal and non-hypochondriacal patients as objectively as possible the Cornell Medical Index was used. This seemed to be the most appropriate instrument, since it offered what might be regarded as a standardized opportunity for complaint behaviour and avoided the possible tendency on the investigators part, to encourage hypochondriacal patients to produce complaints, and to inhibit patients known to be non-hypochondriacal.

The hypochondriacal patients did, in fact, obtain significantly higher scores on the Cornell Medical Index. In addition, the two groups of patients have been compared on individual items. This has been done simply to render the data more meaningful and not necessarily in the hope of detecting any associations of aetiological importance. Although all significant associations have been reported, it is appreciated that in some cases the frequency of affirmative responses is so low as to make the item concerned of very minor value as a discriminating variable. For this reason only those items which were answered "yes" by ten or more of the 50 hypochondriacal patients will be taken into account. The items which discriminate at the highest level of statistical significance ( $p < 0.001$ ) can be seen to include

three main groupings. The two largest with five items each, relate to over-concern with health (items 115, 117, 121, 122, 123) and gastrointestinal symptoms (items 48, 49, 50, 52 and 54). The other large cluster of four items relates to the musculo-skeletal system (items 38, 65, 66 and 70). Thus the three main clusters include one which gives support to the overall nature of the main difference between the two groups of patients, while the other two correspond to the two systems which were found clinically to be most commonly involved in hypochondriacal patients.

This study has not had among its aims the investigation of the physical processes associated with hypochondriacal illness and a detailed discussion of this area would be beyond its scope. In a number of the cases studied the pre-occupation seemed to be with what have been referred to as the physiological correlates of the emotions, e.g. tachycardia, tachypnoea and muscle tension. The occurrence of such changes have long been known particularly since Cannon's (1929) classic study. It has been less easy to explain the localization of symptoms. Malmo and Shagass (1949) have shown that when patients with cardiovascular complaints are exposed to a painful stress they shown a higher mean heart rate, a greater mean heart rate variability and greater mean respiratory variability. On the other hand, reliably higher neck muscle potential scores were obtained from patients with complaints referred to the head and neck. Malmo, Shagass and Davis (1950) have also carried out an intensive longitudinal study of three patients, and have demonstrated subclinical alterations in muscle tension in those

parts of the body to which symptoms were referred during the stressful phases of an interview. They regard this as support for the principle of symptom specificity "which states that the particular physiologic mechanism of a somatic complaint is specifically susceptible to activation by stressful experience". This may explain the localisation of symptoms in some patients, but it seems more likely that the area involved depends on a constellation of factors rather than a single cause. For example, a part of the body may be focussed on because of psychophysiological changes which facilitate the process of identification with another person. The fact that the physiological accompaniments of emotion affect most parts of the body is well-known - as Cannon (1929) points out "... any high degree of excitement in the central nervous system, whether felt as anger, terror, pain, anxiety, joy, grief or deep disgust, is likely to break over the threshold of the sympathetic division and disturb the functions of all the organs which that division innervates". Thus exposure to illness in another person may serve to draw attention to particular aspects of a widespread physiological process. This, as was pointed out earlier, seemed to have occurred in all the hypochondriacal patients who had been in contact with illness in a relative or friend within three months of the onset of their own illness (Tables 135-137). However, the hypochondriacal patients had not been in contact with illness significantly more often than the non-hypochondriacal patients. Kreitman et al (1965) report that hypochondriacal depressives were more likely to have symptoms resembling those of the main illness of their mothers. However, the

Chi Square of 4.29 ( $p < 0.05$ ) which is reported in their paper, has been calculated without applying a Yates correction, which, in view of the small sample size (40), would seem desirable (Maxwell 1961). When this is done, the Chi Square value is reduced to 2.98 which is not significant at the 5% level. Furthermore, the comparison carried out by Kreitman et al (1965) with regard to identification does not seem to be entirely satisfactory. Since they have chosen a control group without physical symptoms, they are consequently comparing the tendency of one group to identify with the physical symptoms of their parents and the tendency of the other group to identify with the non-physical symptoms of their parents. It does not seem unreasonable to suppose that identification may occur more easily with some forms of symptomatology than with others.

The development of symptoms resembling those of a close relative or friend who has recently died or suffered a severe illness has also been described by Stenback (1960), Kellner (1963) and Parkes (1965). The role of identification will be further discussed in relation to other variables of possible aetiological significance.

Fears of illness which might befall them in the future were present in 52 of the hypochondriacal patients (27 females, 25 males). The content of the fears have been listed in Table 66. Patients with fears of illness or death usually showed insight into the irrationality of their fears. One female patient, when asked how she had been, said with a smile, "Last week I had TB, heart disease and leukaemia". Most fears followed exposure to illness in relatives and friends. As

can be seen from Table 66, the commonest fears were of cancer in general, cancer of the lung, sudden death and heart disease. As mentioned earlier, no patient related the onset of the hypochondriacal illness to anything read or seen in newspapers, books, magazines, television or radio. Patients who had no fears of illness showed a striking lack of interest in the possibility of contracting any disease in the future. These patients were concerned only with the symptoms which troubled them. Apart from the 19 patients who were convinced that a specific disease was present, the remaining 80 simply stated their complaints and when asked what they thought might be wrong often refused steadfastly to speculate on the subject. If pressed they might eventually offer some theory such as "a nerve being nipped" or "a bone out of place".

The division of patients into "spontaneous and non-spontaneous" complainers was fairly easy to make. Only 24 of the 147 patients were in any way reticent about their complaints and of these 21 had fears concerning illness. The impression gained was that these patients often feared telling of their symptoms in case their apprehensions were confirmed.

Significant associations were found between a number of clinical features and hypochondriacal illness. Sysmenorrhoe was more frequent and more incapacitating in hypochondriacal females. A possibly related finding

was a poor sexual adjustment in hypochondriacal patients; this association being significant only in the females. It may be that both complaints reflect a dissatisfaction with the female role. Some female patients maintained that their symptoms were made worse by intercourse, but others simply stated that they considered it distasteful and wished they need never engage in it. Despite this, it is interesting that there was an inverse relationship between the presence of a hypochondriacal illness and marital disharmony. This finding seems to underline the fact that the hypochondriacal individual needs someone to whom to communicate his complaints, and may at the same time be preventing the expression of open anger by himself or his spouse by the use of his sick role. Thus one patient's wife expressed anger and dissatisfaction with the patient's behaviour to the doctor but never told the patient because she felt that it would be wrong to upbraid someone in physical pain or discomfort. In this regard Grad and Sainsbury's (1963) work is of interest. They interviewed the relatives of all patients referred to the community psychiatric serve in Chister, Sussex and found that "the aspect of the patient's behaviour which families found most troublesome was constant harping on bodily complaints."

Another explanation for the lower incidence of marital disharmony reported by hypochondriacal patients might be a reluctance to discuss or consider non-physical aspects of their problems. When asked about their marriages a numbers of patients replied that their symptoms were not due to any marital problems.

The tendency to deny any guilt feelings, although present in all patients, may also have been more marked in hypochondriacal patients

because of their reluctance to face psychological problems.

Psychoanalytic writers have, however, stressed the presence of guilt over aggressive and hostile feelings as an important factor in the development of hypochondriacal illness. If the presence of a hypochondriacal illness is effective in counteracting feelings of guilt one would expect the inverse relationship between guilt feelings and hypochondriasis which had been found in this study. Further support for this hypothesis is given by the finding that hypochondriacal patients were more likely to report feelings of resentment and hostility which they were unable to express to the person involved. It could be argued of course that these feelings of resentment were actually intended for the doctor who was not accepting the patient's complaints at their face value, and that by describing resentment towards others, the patients were indirectly telling the doctor of their resentment towards him. An attempt was therefore made in all cases to help the patient to ventilate his negative feelings about the doctor, and the impression was gained that these individuals had never been able to express feelings of this sort freely and openly.

It should also be borne in mind that the patient's resentment towards doctors might at least in part be due to the rather antipathetic attitude of some doctors towards them which was occasionally expressed in quite unambiguous terms. In most cases the patients were the sources of information concerning such incidents, but it was not unusual for doctors with whom the author discussed cases to admit freely their hostility towards the patient, and the fact that they had "told him off".

Although it was usually possible to show that the feelings of resentment antedated the onset of the hypochondriacal illness, it is possible that the patient was projecting his current feelings of resentment on to situations which preceded his illness. Nonetheless, it seems reasonable to infer that the inability to express feelings of resentment does contribute to the psychogenesis of hypochondriacal illness.

Two diagnostic entities showed a significant negative association with hypochondriacal illness. These were endogenous depression and neurotic depression, both of which were commoner diagnoses in the control sample. This finding is in keeping with that of Stenback and Jalava (1961) whose work was described earlier. They consider that "hypochondria" does not occur very often in depressive illness, but this statement conflicts with the findings of other authors (Brown 1936, Hohman 1940, Jones and Hall 1963). Stenback and Jalava (1961) considered "Hypochondria" and depressive illness to be incompatible, since the former implies the presence of anxiety - an effect which is not a part of depression. This is a somewhat surprising statement when one considers that the presence of anxiety symptoms in patients diagnosed as having endogenous depression is a common clinical observation. Another possibility is that depressive illness appears to be less common in hypochondriacal patients because some of the patients with physical symptomatology are suffering from an "affective equivalent". Da Fonseca (1963) has suggested that certain "somatic syndromes" may represent affective illness in predisposed individuals. He bases his contention on the finding that twins suffering from

depression have a high proportion of siblings and relatives with somatic syndromes which resemble affective illness in their "tendency to recover and relapse" ... their tendency to spontaneous disappearance and their frequent association with endogenous mood changes".

Da Fonseca (1963) did not investigate control groups of non-depressed psychiatric patients to show that they had fewer relatives with such "affective equivalents".

As described by Da Fonseca, the concept of "affective equivalents" is part of a wider genetic theory of depressive illness. He considers the genetically predisposed individual to be more prone to develop a depressive illness if an immaturity of the autonomic nervous system is also present. It is this immaturity which is postulated as the cause of the physical disturbance.

An equally plausible explanation may be based on the psychoanalytic theory of the aetiology of depressive illness. As stated by Glover (1949) and Noyes (1958) a constitutional predisposition is accepted, but the psychogenic origin of depression is believed to consist of anxiety and hostility following the real or fantasied loss of a loved object. This loss is felt as a rejection and the resultant hostility cannot be expressed due to super ego control. It is therefore turned on the self - thus producing feelings of depression and guilt. In this context it could be argued that hypochondriacal illness should protect against the development of depression and guilt, since assumption of the sick role allows hostility to be discharged through complaint behaviour, and also allows guilt to be assuaged by the conviction that one is already suffering.

It must be remembered, however, that depressive and hypochondriacal disorders do occur simultaneously in the same patient. The interaction between these two states must obviously be regarded as a complex one, particularly as the aetiological factors may differ from subject to subject. Nonetheless in the light of the foregoing discussion one might predict that depressed patients who show hypochondriacal features will manifest less guilt than those who do not. It was not possible to demonstrate a significant association when hypochondriacal and control depressives matched for age and sex were compared Table (184) but a trend in the predicted direction was found. Thus two of the 25 hypochondriacal and eight of the 25 control patients manifested guilt feelings. Giberti (1965), whose study was mentioned earlier, did in fact find that in patients with endogenous depression there was a significant association between hypochondriacal features and a lower incidence of guilt.

In the light of this reasoning, a lower incidence of attempted suicide might also be expected in hypochondriacal patients, since, in addition to the opportunities for directing aggression outwards, the appeal function of suicide (Stengel et al 1958) is also served by hypochondriacal complaint. Such a finding was, in fact, reported by Ziegler and Heersema (1943).

In the personal series the negative association between hypochondriacal illness and suicidal behaviour has once again been demonstrated. In the matched depressive samples the same trend is strongly present with only two out of 25 hypochondriacal subjects, and eight out of 25 control subjects having a history of suicidal attempt. These findings suggest that hypochondriacal features somehow protect against suicidal behaviour.

It is clear, however, that this protection is by no means absolute since 15 (10.2%) hypochondriacal patients in the personal series had in fact made suicidal attempts. It is worth recalling that Jameison and Wall (1933), who studied the records of 25 patients who had committed suicide while in hospital, found that severe hypochondriacal and nihilistic ideas were a consistent feature. Their descriptions suggest that these were patients with psychotic depressive illnesses - conditions which must have presented particularly difficult problems before the advent of convulsive therapy.

The premorbid personalities of the hypochondriacal patients differed in a number of ways from those of the controls. The hypochondriacal patients were more likely to have been anxiety-prone and hypochondriacal, and less likely to have been submissive, emotionally immature or cyclothymic. The premorbid personality traits encountered most commonly in the hypochondriacal patients were similar to those found by Kenyon (1964) viz, anxious, obsessional and hypochondriacal. All these traits were much commoner in the patients in the present study than in Kenyon's (1964) investigation. However, the two studies are not really comparable since Kenyon has restricted his study to data from case notes. He does not provide information concerning the definitions used, and has not compared his sample with a group of non-hypochondriacal patients on this variable.

The preness to anxiety in the hypochondriacal subjects is also reflected in a group of items in the Cornell Medical Index relating to cardiovascular and respiratory function, which distinguished between hypochondriacal and control patients (Table 75, Items 30 - 35). In

a number of cases the concern of over illness was based on an awareness of the somatic anxiety symptoms such as shortness of breath and tachycardia. It was not surprising that a premorbid hypochondriacal personality was commoner in the hypochondriacal patients, but it should be noted that 40% of these patients had no such premorbid personality traits. Katzenelbogen (1942) reported all of his 51 patients as showing hypochondriacal personality traits, while Kenyon (1964) reported an incidence of 12.7% in "primary" hypochondriasis" and 17% in "secondary hypochondriasis." Both of these authors used case records as their source of information and the wide disparity of their results, highlights the difficulties and shortcomings of this research method. It seems clear, however, that personality traits other than hypochondriacal ones may predispose to the development of a hypochondriacal illness.

The finding that female hypochondriacal patients were less likely to be submissive personalities, suggests that they may utilize the sick-role to dominate their husbands or relatives when other techniques fail or cannot be used. The manner in which some hypochondriacal females had manoeuvred their spouses into taking on the female role in the home was striking. Thus in the case of one female patient, the husband was forced to care for the children and do all the housework.

The fact that hypochondriacal patients tended to show less emotional instability is in keeping with the finding that they were unable to express feelings of resentment and hostility. Thus hypochondriacal patients were more likely to suppress unpleasant feelings rather than

demonstrate them openly and without control, as the emotionally unstable personalities did.

The finding that hypochondriacal subjects were less likely to have cyclothymic personalities seemed possibly a result of the preponderance of patients with endogenous depression in the control group. In the groups matched for sex, age and diagnosis of endogenous depression, the trend was the same although not significant (two of the 25 hypochondriacal and six of the 25 control subjects were cyclothymic). This is in keeping with Giberti's (1965) report that the incidence of cyclothymic personality traits tended to be lower in hypochondriacal depressives. The significance of this finding is not clear. It may indicate that constitutional factors play a smaller part in the aetiology of hypochondriacal depressions.

Of the factors during childhood which were investigated as being of possible aetiological importance, three were found to be significantly associated with hypochondriacal illness. Thus hypochondriacal patients were less likely to have been in prolonged contact with a parent or sibling who was ill, they tended to have more siblings, and to have been considered "delicate" children.

These findings suggest that the factors in childhood which might result in hypochondriacal illness, involve the centring of attention on a child, who is given the role or status of a sick or "delicate" person, and who possibly uses this status to draw attention away from his siblings. In this regard it is of interest that hypochondriacal patients tended to have more siblings, although this finding was not significant in the males. This is in keeping with

Gonda's (1962) finding that neurological patients who persistently complain of pain, have significantly more siblings than those who do not. Gonda suggests that children in large families learn to use the complaint of pain and the adoption of an invalid role to seek assistance when painful experiences arise in later life. The finding that hypochondriacal patients tended not to have been exposed to illness in a sibling or parent seems understandable, since such an illness may have drawn attention away from the patient and have set "standards" for the adoption of the "sick-role" which he could not "achieve".

It would seem that parents who are hypochondriacal about themselves are not quite so pathogenic in this context as parents who are hypochondriacal about their children. As Kanner (1946) points out, it is possible for parents to make invalids of their children by reducing them to "organs of their solicitous preoccupations".

In evaluating this data it is important to take into account the fact that much of it is being gathered from a hypochondriacal individual who may be recalling his childhood in terms of his present mental state. Thus the statement that he was not overprotected as a child may represent his dissatisfaction with his present treatment rather than an objective assessment of his treatment as a child. It may on the other hand indicate a life-long feeling of not being helped in the manner which one's plight demands. From the attitude of many doctors to these patients, it seems likely that their persistent demands for help often evoke responses which served to confirm their belief that they never receive the help and consideration which they feel they need.

The concern with compensation for injuries in hypochondriacal males seemed also to be a manifestation of this feeling. None of these patients were actually involved in compensation proceedings and in some cases had never instituted any. They were simply preoccupied with the belief that they had not got enough or should have asked for something. The resentment expressed by these patients in relation to these problems was often also present in their attitudes to doctors and to their relatives. The complaint about the lack of compensation seemed to be yet one more expression of their dissatisfaction with those from whom they expected help.

Only twelve of the hypochondriacal patients admitted to possessing and reading books containing medical information and advice for laymen. This finding is probably another manifestation of hypochondriacal behaviour and not of aetiological significance, since none of the hypochondriacal patients could ascribe the development of their illness to the reading of such a book. More often the patient consulted the book after his concerns had already been aroused. It is noteworthy that there was no significant association between a tendency to be made anxious by reports and descriptions of disease in the mass media and hypochondriacal illness. Only 25 of the hypochondriacal patients reported being made anxious by such reports and of these 22 subjects had fears of illness rather than preoccupation with symptoms only.

Iatrogenic factors seemed to have played a part in the illnesses of 22 (15%) of the hypochondriacal patients, and in one of the controls. Although many writers have drawn attention to the iatrogenic factor

(Watters 1938, Katzenelbogen 1940, Ryle 1948, Chambers et al 1958, James 1960, Wahl 1962, Mayer Gross et al 1960 and Keyes 1965). Hart (1954) points out that few investigations have been carried out to establish the facts in these situations. As Wheeler et al (1950) have shown, the subjects who develop neurotic symptoms due to a doctor's words or actions, are usually pre-disposed to such a development. Hart (1954) has pointed out how often patients may recollect their doctor's remarks quite inaccurately. He questioned ten physicians about the remarks they had supposedly made to patients. He found that the physicians were taken aback at the statements ascribed to them and were convinced that they had reassured the patient adequately. Hart (1954) seems to accept the evidence of these physicians rather too readily. It is possible that what appears to be a clear explanation to a doctor is far from clear to a patient.

The precise aetiological role of iatrogenic factors remains a difficult question. Although there is no evidence that a doctor's behaviour will produce a hypochondriacal illness per se, it clearly behoves him to avoid exacerbating a neurotic state if at all possible. The best advice in these situations is surely that of Hart (1954), who suggests that reassurance is not sufficient for patients who fear heart disease; what they need, he feels, is the exploration and treatment of their real concerns and worries.

FACTORS RELATED TO CLINICAL OUTCOME

There were sex-related differences with regard to the factors influencing clinical outcome although a number were common to both male and female hypochondriacal patients.

The factors which showed a statistically significant association with a good clinical outcome in both sexes were:-

1. An illness of short duration on first referral.
2. A cyclothymic personality.
3. A tendency to be made anxious about health by reports or descriptions of disease on the radio, television or in magazines. Factors significantly related to a bad outcome in both sexes were:

1. Spontaneous, non-reticent complaint behaviour.
2. Symptoms described as continuous.
3. Symptoms referred to the musculo-skeletal system.
4. Complaints of pain.

The finding that a shorter illness is related to a better prognosis is in keeping with the work of Rosenfeld (1958), Ladee (1961) and Ray and Advani (1962). The presence of cyclothymic personality traits in patients with a good prognosis indicates support for writers who have stated that the presence of depression favours a good prognosis (Fenichel 1955, Rosenfeld 1958, Ladee 1961, Ray and Advani 1962). These authors also found that the presence of anxiety meant a favourable outcome. The finding that these patients react with concern to information about disease in the mass communication media, tends to lend

support to this finding. Furthermore, this particular symptom suggests a sensitivity or responsiveness to events in the environment which patients with a bad prognosis did not show. Instead they manifested an eagerness to complain of symptoms which they tended to describe as painful, continuous and related to musculo-skeletal system. In patients with the worst prognosis, this system was more often involved in men (54.5%) than women (38.5%). This may be due to the greater age of the men in this prognostic group and thus the greater likelihood of degenerative joint disease being present.

The factors related to a good outcome in males were:-

1. Pre-morbid anxiety-prone personality.
2. Fear of illness.
3. A poor sexual adjustment.
4. Guilt relating to sexual behaviour.

The factors relating to a worse outcome in males were:-

1. A greater age.
2. A lack of response to reassurance when first seen.
3. The presence of organic pathology.
4. Feelings of resentment.

In females a good prognosis was related to the endogenous depression, while symptoms referred to the chest indicated a fair prognosis. Female hypochondriacal patients with a poor prognosis tended to have hysterical personalities and a history of having seen more non-psychiatric consultants.

From these findings two syndromes of chronic hypochondriasis emerge which correspond to those described by other authors. In the case of the male the picture is of an older patient, resentful and complaining of symptoms (including pain) which are described as continuous, and who shows no response to reassurance. He is either not working, or able to do light work only. These patients probably come close to those described as suffering from "hypochondria" by Gillespie (1928). His patients were chiefly males in later life who manifested an "excessive concern shown in a repeated affirmation of his discomforts." His patients seldom responded to therapy and rarely recovered. It is also of interest that in the present study 9 of the 22 males in the group with a poor outcome had been given electro-convulsive therapy with poor results. In this connection it is instructive to recall Roth's (1959) statement that in depressive illness "where hypochondriacal symptoms are the presenting disability and dominate the clinical picture, ... electro-convulsive treatment is either ineffective or of such transient benefit as to be therapeutically worthless. It has therefore tended to confirm the independence of a group of cases with prominent hypochondriacal symptoms from the affective psychoses proper".

Whether or not these patients justify the nosological status of an independent condition is debatable. However, they do seem to represent a clinical syndrome in which a hypochondriacal illness in elderly men is associated with depressive symptoms but does not respond to treatment as one might expect in a typical depressive illness.

The females who had a poor clinical outcome were younger than the

corresponding males. They were hysterical personalities who had seen a number of non-psychiatric consultants, complained volubly of persistent pain and other symptoms and did not respond to treatment. They were virtual invalids in many cases. These patients seem to correspond to those described by Gehring (1932) as "painful women". He described their wanderings from consultant to consultant, their persistent complaints of pain and other symptoms and their tendency to become invalids. Richards (1919) referred to them as "persons with hypochondriac complaints who drift with the tide of every day farther and farther out into a condition of invalidism". She found it a condition much commoner in females who are quite inaccessible to reassurance. She also refers to their visits to numerous consultants - "the physician thinking he must have overlooked something, and goaded by the feeling that he ought to be doing something sends the patient from one specialist to another".

In the same way as the male equivalent is often labelled "depression" (Roth 1959), females described above have at times been regarded as suffering from "hysteria". This is a syndrome upon whose status and nature, considerable doubt has recently been thrown (Slater 1961, 1965). On the other hand Perley and Guze (1962) have presented evidence that "hysteria" exists as a syndrome, using a definition which has as its main criteria "a history of many vague complaints and multiple pains, numerous sexual symptoms, including dysmenorrhoea, dyspareunia and sexual frigidity, and the history of excessive hospitalization and surgical operations". While it is possible to accept that these patients may be hysterical personalities who communicate their symptoms in a histrionic overdramatic manner, it would seem an

unusually broad application of the term "hysteria" to apply it in these cases. Part of the difficulty is, of course, due to the vague nature of the term itself. It would seem desirable to specify whether the patient is an hysterical personality, or is showing conversion or dissociative symptoms, rather than use a blanket term which could refer to any aspect of hysterical illness. The term "conversion reaction" has also come in for recent reappraisal, in particular by Ziegler et al (1960) and Ziegler and Imboden (1962). In a study of patients diagnosed as "conversion reactions", Ziegler et al (1960) found that "the type of symptoms with which our patients often simulated known diseases entities was that of pain", and also that the majority of their subjects, "regarded themselves as organically ill". In view of this it seems quite arbitrary to designate these patients as suffering from conversion rather than hypochondriacal reactions. In fact Ziegler et al (1960) actually state that "perhaps there is some qualitative difference between the pain syndromes and other conversion reactions, in that the pain syndromes represent disguised but nevertheless verbalised appeals for help, in sharp contrast to the relatively unverballed appeal implicit in "loss of function" syndromes in which the symptoms speak for themselves". This problem harks back to the late 17th and early 18th century, when, as described in the historical review, "Hysteria" and "Hypochondria" were equated. But even as recently as 1928, T.A. Ross stated that he was not certain that there was "any great difference between the hypochondriac and the hysteric". Unfortunately, Ross, like many others, did not define either term with any precision.

Thus far we have discussed what might be named the "invalid Syndromes" which have emerged from this prognostic study. The other hypochondriacal syndromes, associated with a better prognosis, consist firstly of those cases where the hypochondriacal illness is associated with a depressive illness. Here the outcome is usually excellent, particularly in females. In addition these patients tend to have a short illness and cyclothymic personalities-features which further support the depressive nature of this hypochondriacal syndrome.

The other cluster of features associated with a better prognosis were those indicating the presence of anxiety, viz. fear of illness, an anxiety-prone personality and a tendency to be made anxious by the discussion of disease in the mass communication media. These patients were also more likely to be reticent about their complaints. These features suggest the entity known as "nosophobia".

#### The Nosological Status of Hypochondriasis

It has been demonstrated that a number of clinical differences exist between patients diagnosed as suffering from "primary" hypochondriasis and patients with "secondary" hypochondriasis. The former group consisted of patients in whom it was felt that no other diagnosis but hypochondriasis could be made. This meant eliminating patients with obsessional or hysterical illness and in particular those in whom anxiety or depression were present in more than a mild degree.

The results of the statistical comparison of the two groups provide additional evidence for maintaining that anxiety and depression were associated with "secondary" rather than "primary" hypochondriasis. Thus the patients designated as having "secondary" hypochondriasis tended to have a shorter history when first referred, were more likely to have made a suicidal attempt, to have had previous psychiatric illness treated and were more likely to be treated with electro-convulsive therapy and anti-depressants. In addition patients with "secondary" hypochondriasis tended to be anxiety-prone personalities, to have fears of illness and to be treated with sedatives.

These two clusters of clinical features are clearly a strong indication that "secondary" hypochondriasis comprises depressive and anxiety syndromes, while "primary" hypochondriasis does not.

Other significant findings were the association between musculo-skeletal symptoms and complaints concerning skin, hair and appearance and "primary" hypochondriasis. Depersonalisation was associated with "secondary" hypochondriasis. The latter finding is of interest since an association between depression and depersonalisation has been shown by Sedman and Reed (1963) and Sedman and Kenna (1963), while Dixon (1963) has demonstrated in a study of college students that depersonalisation is significantly related to anxiety. In view of the finding that fears of illness and disease were also associated with "secondary" hypochondriasis, it is interesting to note Glover's (1949) contention that in hypochondriasis "depersonalisation .... is a defence against the fear of organ change or loss".

An examination of the data suggest that "primary" hypochondriasis may differ in some respects in the two sexes. Thus male patients with "primary" hypochondriasis tend to dominate Social Class 6 (semi-skilled) while the females with "primary" hypochondriasis tend to be predominantly in Social Class 5 (skilled manual and routine grades of non-manual occupations). The reasons for this sex difference is not clear. It may be due to the fact that the female's social class was based on her husband's occupation. These results may therefore indicate that men who have hypochondriacal wives tend to be in a higher social class than men who are themselves hypochondriacal. This is of interest in the light of Rawnsley and Loudon's (1964) study of the Tristan da Cunha islanders. They found that psychogenic headaches and a history of hysterical "spells" were commoner in the wives of leaders rather than other men. Gittleson's (1961) finding that psychiatric patients with psychogenic headaches were more likely to have obsessional personalities seems to provide a link with the finding in the present study that females with primary hypochondriasis tend to have obsessional personalities.

Males with "primary" hypochondriasis tended to have hypochondriacal fathers while females did not show this tendency. Hubble (1953) has suggested that hypochondriasis may be commoner in men because they are able to find women who will play the role of a mother to them, while men are less likely to take on this role in relation to women. The present finding may reflect a pattern of male hypochondriacal dependence in certain families such as Hubble (1953) described in the famous Darwin family.

A poor sexual adjustment was associated with secondary hypochondriasis in males and a primary hypochondriasis in females. As previously pointed out, this was because the poor adjustment in males was associated with a loss of libido during a depressive illness, whereas in females it tended to be a longstanding personality trait.

The main task of this nosological investigation has been to demonstrate that there are differences between "primary" and "secondary" hypochondriasis, which justify the former being regarded as an independent syndrome. In the absence of clear cut aetiological evidence one may hesitate to use the term "disease entity" but at the present stage of psychiatric knowledge the use of this term in relation to hypochondriasis seems appropriate and justified.

Main Conclusions and Synthesis

The findings of this study suggest that there are three main hypochondriacal syndromes. These are hypochondriacal depression, hypochondriacal anxiety (or mesophobia) and primary hypochondriasis. It has been shown that the first two syndromes are related to a good prognosis, the third does not show a significant association with prognosis, except in the case of men. In them, primary hypochondriasis tends to indicate a poor prognosis in terms of severity of persistent symptoms only. In other words, when men with primary hypochondriasis do badly they tend to complain of continuous symptoms more often than men with secondary hypochondriasis who still have symptoms at follow-up.

A number of variables have emerged which may be of aetiological significance in hypochondriacal illness. The findings of this study show that a hypochondriacal illness is the result of a constellation of factors. The pattern which has emerged suggests that the development of hypochondriacal illness in adult life is facilitated when there is a centering of attention on a child who is encouraged to regard himself as a sick person. This is also related to the development of hypochondriacal and anxiety prone personality traits.

Hypochondriacal illness is more likely in lower social class groups, suggesting that the communication of problems in physical terms is more likely in these social strata which accept physical rather than psychological illness as a justification for conferring the "sick-role" upon an individual.

The pattern of hypochondriacal illness has been shown to differ in some respects between males and females. If hypochondriacal illness is regarded essentially as an adoption of the sick role it is not surprising that social attitudes to the role of men and women in a society should result in the sick role being manifested in different ways.

At a time when medical services are becoming more readily accessible to wider sections of the population, the nature of the sick role is a subject which demands attention. Hypochondriacal illness may be regarded as one facet of this problem and the present study has attempted to cast some light on it from a psychiatric standpoint.

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**Appendix A**

**Cornell Medical Index**

**Items not differentiative  
between Hypochondriacal and Control Subjects**

APPENDIX A: Cornell Medical Index - Non Differentiating Items.

Question	FEMALES		MALES		TOTAL	
	No. answering "Yes" Hypooh. N=22	Control "Yes" N=34	No. answering "Yes" Hypooh. N=28	Control "Yes" N=22	No. answering "Yes" Hypooh. N=50	Control "Yes" N=56
1. Do you need glasses to read?	15	21	16	12	31	33
2. Do you need glasses to see things at a distance?	13	17	11	5	24	22
3. Has your eyesight often blacked out completely?	3	3	6	1	9	4
4. Do your eyes continually blink or water?	7	4	7	4	14	8
7. Are you hard of hearing?	4	5	7	2	11	7
8. Have you ever had a bad running ear?	3	5	6	4	9	9
12. Are you often troubled with bad spells of sneezing?	2	6	6	1	8	7
13. Is your nose constantly stuffed up?	3	5	8	6	11	11
14. Do you suffer from a constantly running nose?	0	0	3	2	3	2
15. Have you at times had bad nose bleeds?	4	3	4	3	8	6
17. Do you frequently suffer from heavy chest colds?	3	1	6	4	9	5

APPENDIX A: Cornell Medical Index - Non Differentiating Items.

Question.	FEMALES.		MALES		TOTAL	
	No. answering "Yes" Hypooh. N=22	Control N=34	No. answering "Yes" Hypooh. N=28	Control N=22	No. answering "Yes" Hypooh. N=50	Control N=56
19. Do frequent colds keep you miserable all winter?	4	2	6	3	10	8
20. Do you get hay fever?	3	3	5	1	8	4
21. Do you suffer from asthma?	1	0	1	0	2	0
24. Do you sometimes have severe soaking sweats at night?	11	13	11	9	22	22
25. Have you ever had a chronic chest condition?	3	2	8	2	11	4
26. Have you ever had T.B. (Tuberculosis)?	0	0	1	0	1	0
27. Did you ever live with anyone who had T.B?	2	5	2	2	4	7
28. Has a doctor ever said your blood pressure was too <u>high</u> ?	4	6	2	1	6	7
36. Are your ankles often badly swollen?	3	5	1	0	4	5
37. Do cold hands or feet trouble you even in hot weather?	11	9	5	1	16	10
39. Has a doctor ever said you had heart trouble?	3	4	4	1	7	5
40. Does heart trouble run in your family?	3	5	4	1	7	6
41. Have you lots more than half your teeth?	12	19	19	10	31	29

APPENDIX A : Cornell Medical Index - Non Differentiating Items.

Question.	FEMALES.		MALES		TOTAL.	
	No. answering "Yes". Hypooh. N=22	No. answering "Yes". Control N=34	No. answering "Yes". Hypooh. N=28	No. answering "Yes". Control. N=22		No. answering "Yes". Hypooh. N=50
42. Are you troubled by bleeding gums?	6	3	3	2	9	5
43. Have you often had severe toothaches?	6	11	9	6	15	17
44. Is your tongue usually badly coated?	13	11	15	11	28	22
46. Do you usually eat sweets or other food between meals?	5	9	8	8	13	17
47. Do you always gulp your food in a hurry?	3	3	7	3	10	6
51. Are you often sick to your stomach?	6	4	5	1	11	5
53. Do severe pains in the stomach often double you up?	4	2	4	1	8	3
55. Does stomach trouble run in your family?	4	3	8	4	12	7
56. Has a doctor ever said you had stomach ulcers?	0	1	9	4	9	5
57. Do you suffer from frequent loose bowel movements?	4	4	6	2	10	6
58. Have you ever had severe bloody diarrhoea?	3	3	3	2	6	5
61. Have you ever had ptiles (rectal haemorrhoids)?	13	13	11	5	24	18
62. Have you ever had jaundice (yellow eyes and skin)?	1	4	2	0	3	4

APPENDIX A : Cornell Medical Index - Non Differentiating Items.

Question	FEMALES.		MALES.		TOTAL	
	No. answering "Yes" Hypooh. N=22	Control. N=34	No. answering "Yes" Hypooh. N=28	Control N=22	No. answering "Yes" Hypooh. N=50	Control. N=56
64. Are your joints often painfully swollen?	1	2	1	0	2	2
68. Does rheumatism (arthritis) run in your family?	6	4	6	11	12	15
69. Do weak or painful feet make your life miserable?	6	3	2	0	8	3
72. Is your skin very sensitive or tender?	8	13	9	6	17	19
73. Do outs in your skin usually stay open a long time?	5	5	3	2	8	7
74. Does your face often get badly flushed?	14	13	5	3	19	16
75. Do you sweat a great deal even in cold weather?	9	10	9	4	18	14
77. Does your skin often break out in a rash?	9	7	4	1	13	8
78. Are you often troubled with boils?	3	2	2	3	5	5
82. Do you have hot or cold spells?	13	15	9	5	22	20
85. Have you fainted more than twice in your life?	8	11	3	2	11	13
88. Were you ever knocked unconscious?	1	5	8	5	9	10

APPENDIX A : Cornell Medical Index - Non Differentiating Items.

Question.	FEMALES.		MALES.		TOTAL.	
	No. answering "Yes" Hypooh. N=22	"Yes" Control. N=34	No. answering "Yes" Hypooh. N=28	"Yes" Control. N=22		No. answering "Yes" Hypooh. N=59
89. Have you at times had a twitching of the face, head or shoulders?	9	8	11	5	20	13
90. Did you ever have a fit or convulsion (epilepsy)?	0	1	1	0	1	1
92. Do you bite your nails badly?	2	5	5	4	7	9
93. Are you troubled by stuttering or stammering?	3	2	5	1	8	3
95. Are you a bed wetter?	1	1	2	0	3	1
96. Were you a bed wetter between the ages of 8 and 14?	1	3	1	2	2	5
97. (females) Have your menstrual periods usually been painful?	11	9				
98. (females) Have you often felt weak or sick with your periods?	13	14				
99. (females) Have you often had to lie down when your periods came on?	8	13				
99. (males) Have you ever had treatment for your genitals?			5	2		
100. (females) Have you usually been tense or jumpy with your periods?	13	14				
100. (males) Has a doctor ever said you had a hernia (rupture)?			4	3		

APPENDIX A : Cornell Medical Index - Non-Differentiating Items.

Question.	FEMALES		MALES		TOTAL.	
	No. answering "Yes" Hypocho. N=22	Control N=34	No. answering "Yes" Hypocho. N=28	Control. N=22	No answering "Yes" Hypocho. N=50	Control. N=56
101 (females) Have you ever had constant severe hot flushes and sweats?	7	7				
101.(males) Have you ever passed blood whilst urinating (passing water)?			4	4		
102.(females) Have you often been troubled with a vaginal discharge?	7	7				
107. Has a doctor ever said you had kidney or bladder disease?	4	4	1	1	5	5
109. Does working tire you out completely?	12	17	14	6	26	23
112. Are you constantly too tired and exhausted even to eat?	4	8	9	3	13	11
116. Are you frequently confined to bed by illness?	1	1	2	0	3	1
124. Did you ever have scarlet fever?	1	6	6	2	7	8
126. Did you ever have malaria?	0	0	2	3	2	3
127. Were you ever treated for severe anaemia (thin blood)?	7	12	1	1	8	13
128. Were you ever treated for "bad blood" (venereal disease)?	0	0	1	1	1	1
129. Do you have diabetes (sugar disease)?	0	0	1	0	1	0

APPENDIX A : Cornell Medical Index - Non Differentiating Items.

Question.	FEMALES.		MALES		TOTAL	
	No. answering "Yes" Hypooh. N=22	Control N=34	No. answering "Yes" Hypooh. N=28	Control. N=22	No. answering "Yes" Hypooh. N=50	Control. N=56
130. Did a doctor ever say you had a goiter (in your neck)?	2	2	1	0	3	2
131. Did a doctor ever treat you for tumour or cancer?	1	1	1	0	2	1
132. Do you suffer from any chronic disease?	1	1	3	1	4	2
133. Are you definitely <u>under</u> weight?	8	9	13	6	21	15
134. Are you definitely <u>over</u> weight?	5	6	5	7	10	13
135. Did a doctor ever say you have varicose veins (swollen veins) in your legs?	4	5	2	2	6	7
136. Did you ever have a serious operation?	4	6	7	4	11	10
138. Do you often have small accidents or injuries?	4	8	7	5	11	13
140. Do you find it impossible to take a regular rest period each day?	13	19	15	9	28	28
143. Do you drink more than six cups of tea or coffee a day?	4	11	10	10	14	21
144. Do you usually take two or more alcoholic drinks a day.	1	1	5	5	6	6
148. Does your thinking get completely mixed up when you have to do things quickly?	10	16	15	7	25	23

APPENDIX A: Cornell Medical Index - Non Differentiating Items.

Question.	FEMALES.		MALES.		TOTAL.	
	No. answering "Yes" Hypoch. N=22	Control. N=34	No. answering "Yes" Hypoch. N=28	Control. N=22	No. answering "Yes" Hypoch. N=50	Control. N=56
149. Must you do things very slowly in order to do them without mistakes?	11	13	10	7	21	20
150. Do you always get directions and orders wrong?	1	3	6	2	7	5
155. Are you considered a clumsy person?	1	0	2	2	3	2
156. Does it bother you to eat anywhere except in your own home?	5	9	10	3	15	12
162. Do you often wish you were dead and away from it all?	6	10	11	5	17	15
163. Does worrying continually get you down?	12	23	19	9	31	32
164. Does worrying run in your family?	8	7	6	2	14	9
165. Does every little thing get on your nerves and wear you out?	11	15	9	3	20	18
166. Are you considered a nervous person?	12	16	15	6	27	22
168. Did you ever have a nervous breakdown?	11	12	11	5	22	17
169. Did anyone in your family ever have a nervous breakdown?	8	11	7	5	15	16
170. Were you ever a patient in a <u>mental hospital</u> (for your nerves)?	4	8	8	2	12	10

APPENDIX A: Cornell Medical Index - Non Differentiating Items.

Question.	FEMALES.		MALES.		TOTAL.
	No. answering "Yes". Hypocho. N=22	Control. N=34	No. answering "Yes". Hypocho. N=28	Control. N=22	
171. Was anyone in your family ever a patient in a mental hospital (for their nerves)?	2	7	2	0	4
172. Are you extremely shy or sensitive.	12	22	13	7	25
173. Do you come from a shy or sensitive family?	2	9	5	2	7
175. Does criticism always upset you?	11	14	13	4	24
176. Are you considered a touchy person?	14	16	14	6	28
177. Do people usually misunderstand you?	6	9	12	4	18
178. Do you have to be on guard even with friends?	2	3	5	2	7
179. Do you always do things on sudden impulses?	10	11	5	4	15
180. Are you easily upset or irritated?	15	18	13	7	28
181. Do you go to pieces if you don't constantly control yourself?	11	11	11	5	22
185. Do you flare up in anger if you can't have what you want right away?	2	2	6	2	8

APPENDIX A: Cornell Medical Index - Non-Differentiating Items.

Question.	FEMALES.		MALES.		TOTAL.
	No. answering "Yes". Hypoch. N=22	No. answering "Yes". Control. N=34	No. answering "Yes". Hypoch. N=28	No. answering "Yes". Control. N=22	
187. Do you often shake or tremble?	14	17	10	4	24
190. Do you tremble or feel weak whenever someone shouts at you?	9	16	7	4	16
192. Are you often awakened out of your sleep by frightening dreams?	9	12	4	3	13
					21
					20.
					15
					25

Appendix B

Illustrative Case Histories

Illustrative Case Histories

Male Patients

A. Secondary Hypochondriasis

I: Hypochondriasis and Depression

1. Mr. R.G. aged 51 years was referred following what appeared to be a suicidal attempt by coal-gas poisoning although he strenuously denied any suicidal intent.

He was the fifth of sixteen children and described a happy healthy childhood. After leaving school at 14 years he worked as a miner, a steelworker and, after the war, as a crane driver until he was sacked when he took time off during an attack of bronchitis. At the time of referral he had not worked for two months. He had an appendicectomy at 20 years and a partial gastrectomy for a duodenal ulcer at 38 years. Since that time he had also suffered from a prolapsed intervertebral disc which gave him occasional pain.

He stated that he had never felt really happy since the death of his mother of cancer of the breast 14 years previously. He had always been particularly close to his mother and had never married.

He had felt worse over the past 4 months with pain in his left leg, in his finger ends, in his left breast and his left side. He complained of odd sensations in his abdomen and trouble with his bowels. He thought that he had "a growth in my leg".

Treatment with electro-convulsive therapy 3 years previously had helped his depression to some extent.

On examination no physical abnormality was found and he was reassured but he continued to complain of pain. He was treated with an antidepressant

(Imipramine) and a sedative (Diazepam) and made steady progress. Eight months after referral he was feeling very well, had no depression and no physical symptoms or pre-occupations. He was working normally.

2. Mr. C.H. aged 37 years was referred having been depressed for six months, with lack of energy and early morning wakening.

He was the only child of an easy-going father and a worrying over-protective mother. He was married and had two children and worked as an electrician's 'mate'.

Thirteen years previously he had been treated for depression with electro-convulsive therapy and had made an excellent recovery.

On the present admission he was pre-occupied with his health and afraid that he might have tuberculosis of the throat or cancer of the stomach. Physical examination revealed no organic disease but it was not possible to reassure him. He was treated with electro-convulsive therapy, Imipramine and Chlorpromazine. Within 6 weeks he was much improved but relapsed 2 weeks later and was given further E.C.T. with good results. Five months later he was depressed again, complained that he felt cold, that his blood was not circulating properly, that he had a "growth or T.B." in the throat and that he had lost weight. He was treated with Amitryptaline and made steady progress. Two months later he was symptom free and back at work.

3. Mr. C.A. aged 42 years had been depressed for 12 months with early morning waking and diurnal variation of mood. He complained of feelings of dizziness and pains in the chest. He was afraid of being ill suddenly and dying - especially of a "cardiac thrombosis". Three years previously both his parents had died of myocardial infarction. His father had always been

healthy and after his death the patient became pre-occupied with the thought that a healthy man, such as he himself was, could suddenly be struck down by illness. Twelve months previously a 36 year old man at his work had suddenly complained of pain in the chest and died. After this the patient became depressed and more pre-occupied with his health. He said "as soon as I get a pain, or a stab of something - my mind flies straight away to 'what's that? - there's something there'."

On physical examination no abnormality was found and he accepted reassurance, but by the end of the interview he was voicing concern about his heart.

On Imipramine he made steady improvement and within 4 weeks was much better, although still hypochondriacal at times. Twelve months after referral he was free of depression and was working normally, although he had occasional fears of illness.

4. Mr. S.R. aged 55 years had been depressed and anxious since a haemetemesis at work two years previously. He was married and had an adopted daughter who had a family of her own.

Since the haemetemesis he had been doing light work but was afraid of going to work because he felt that the noise in the rolling mill was injurious to his health. He complained of headaches, dizziness and weakness of the arms and legs. Apart from chronic bronchitis which had resulted in some dyspnoea on effort, the patient showed no physical abnormality. His depressive symptoms gradually improved but he continued to complain of pains in the chest, stomach and head. He said "I am only 55 years old but I wish I could retire". He was very resentful against his firm for giving him a

sweeping-up job after he had been there for 42 years. He was treated with electro-convulsive therapy but showed only a temporary response. Four years later he was still not working and his physical complaints were unchanged. He constantly asked to be allowed to go to a convalescent home or to be retired.

5. Mr. E.B. aged 28 years complained of being constipated for 4 months, dizzy, unable to take in sufficient air and of pain on defaecating and continuous pain in the left side of his chest.

He was depressed all through the day and unable to sleep. He had seen four doctors and had even gone to the casualty department of a general hospital eight days previously to ask for help.

Physical examination revealed no abnormality but it was completely impossible to reassure him. After admission to the in-patient unit he continued to complain of pain in the arms and difficulty in breathing. He approached a number of doctors in the unit for help and on one occasion ran to the nearest general hospital to ask for an X-ray. He made no response to electro-convulsive therapy and was transferred to the local mental hospital, where he was treated as an in-patient for six months. He improved but during this time his wife left him and he went to stay with a sister in Cornwall. He returned to Sheffield and was working normally 3 years after first being seen. Two years later he was seen again, now complaining of pain in the head and chest. He was back with his wife and child and reported no marital difficulties. He was extremely depressed, had no appetite and was waking early. Once again no physical pathology was found (apart from varicose veins) but he could not be reassured. He made a rapid response to treatment with antidepressants and within 3 months was feeling very well and back at work.

## II Hypochondriasis and Anxiety .

6. Mr. C.J. aged 55 was referred to the Department of psychiatry after being investigated on a medical ward to which he had been admitted one night when he complained of severe chest pain. No organic pathology was found. He was an only child, was married with a 21 year old daughter and worked as a foreman turner in a firm with whom he had been for 41 years.

For two years he had experienced a tightness in his chest, sweating of the palms and a fear of cancer and heart disease. He had feelings of panic and was afraid to go to sleep in case he died in the night. He had been reassured on a number of occasions but this did not help.

For about two years he had been having an affair with one of the women who worked under him. He had tried to break off relations with her about six months previously but six weeks before his acute attack she had threatened to expose him to his wife if he allowed her to be sacked with a number of employees who had been declared redundant. He began to feel more anxious and concerned about his health until one night he had a pain in his chest and thought he was dying of a heart attack.

He did not respond to reassurance when first told that he had no physical disease. However, after his problems emerged and were discussed, he gradually improved and returned to work. Two months later he was feeling quite well except for occasional feelings of anxiety.

7. Mr. K.M. aged 45 years had always been preoccupied with his health and went to considerable lengths to keep fit. He was married with an 18 year old daughter. Both his parents were alive and he had one brother.

For nine months he had been feeling tense and anxious, particularly when in

crowds or traffic. He was constantly aware of his heart and terrified that he might have a "heart attack".

This illness was related to a period of estrangement with his brother which had lasted about two years and was centred on an argument as to who should take responsibility for the care of their aged parents. The patient avoided his brother, but felt it his duty to visit his parents. He insisted on his wife accompanying him although she had never got on with his parents.

On physical examination no organic pathology was found. It was possible to reassure him but this lasted only for a day or two.

Throughout his illness the patient managed to keep working at his job of production planner in a steelworks.

He was treated with chlordiazepoxide and psychotherapy. He managed to keep working but his improvement was slow. After three and a half years he was very much improved but still inclined to be anxious and concerned about his heart, despite the fact that he could swim without any untoward effects.

8. Mr. C.L. aged 25 years was referred by a physician to whom he had been sent because of abdominal pain. He was the youngest of four children and lived at home with his parents.

He complained of abdominal pain for six months and the fear that he would burst his appendix and was afraid he would require an operation. He was tense and anxious.

Physical examination revealed no abnormality but it was not possible to reassure. He continued to work and attended for psychotherapy. After about twelve months it emerged that shortly before the onset of his illness he had had intercourse with a woman who was the wife of a workmate and also a friend of his mother. He became afraid that his mother or his workmate might find out.

Shortly after visiting the father of a friend, who was in hospital following the perforation of his appendix, he developed pains in his abdomen and the fear of the same occurring to him.

He improved very slowly and three years after referral was feeling much better, although he did report occasional pains in his abdomen.

9. Mr. F.B. aged 37 was married with two children and worked as an "electrician's mate". He complained of dizziness, weakness, heaviness of the eyes and exhaustion. He had always been concerned about his health but this had been worse for two years. Pains in the back made him fear kidney disease and he also feared pulmonary tuberculosis. When constipated he feared cancer. He always examined his stools and his urine which he thought was abnormally "milky" at times.

He was the third of four brothers all of whom, unlike him, were tall strong men. His father was keen on athletics and had encouraged his sons to play at games and athletics.

The patient felt that his problems were due to coitus interruptus; but after being seen for some time a picture of considerable marital conflict emerged. He was seen together with his wife and made a gradual improvement over a period of fourteen months. At this time he said that he felt much better and felt sure that his problems were "in the house".

10. Mr. E.W. aged 22 years said that his trouble was "I keep worrying about my health." He had pains in the head which made him fear a brain tumour and pains in the chest which made him fear "heart attacks" and cancer. He also complained of palpitations, breathlessness and a fear that he would go bald. He was an only son and had been concerned about his health for seven years, since the death of his father from "cancer of the lung".

He was treated with psychotherapy and meprobamate and continued working. Although he was reassured that he was physically well he continued to be afraid of illness although at times he would admit that his fears seemed irrational to him. After a year he attended less regularly. When seen six years after his first referral he stated that he was very well but still had the occasional fear that he might develop a brain tumour.

B. Primary Hypochondriasis.

11. Mr. A.M. aged 48 was an unmarried man who lived with his 85 year old mother. He worked as a labourer in a steel factory. He complained of pain round the heart of ten years standing, and headaches which had been present for two years. He complained of constant "terrible" wind and belched at intervals during the interview. Three months previously he had been investigated by a physician who found a blood pressure of 220/110 mg. Hg. but did not recommend treatment. The patient had always been a cautious insecure individual and his illness first came on when his aged mother became increasingly demanding. Matters worsened when he was put to work on a large rather frightening machine two years before and he developed headaches.

On physical examination he was found to have a blood pressure of 200/110 mg. Hg. but no other evidence of organic pathology. It was not possible to persuade him that he was well enough to work, but 18 months after he was first seen he decided that he would go back. Although he continued to work, five years after first referral he was still complaining of headaches, weakness and wind. However he was able to go fishing and attend a club in the evenings.

12. Mr. A.H. aged 52 complained that he had suffered abdominal pain for 30 years and had been told it was due to excess acid. For two years he had also had pain in the throat, the left leg, and between the shoulders. He showed no depression or anxiety. Both his parents were dead and he was the elder of two children. He was married and had three children. He worked as an accountant.

He was seen over a period of three years during which time he altered very little. He had many business interests from which he made a good living and had a part time job. When last seen he said he had pain everywhere except in the head but managed to take an active interest in a variety of business activities. At no time did reassurance have any effect on him.

13. Mr. D.Z. aged 45 complained that he had had a dreadful burning pain between the shoulder blades, in the neck, arms, and in the lower part of his back for six years. He had not worked for 7 months since leaving his job as a steel examiner. He was married but had no children. He had been seen and investigated by a rheumatologist, an orthopaedic surgeon and a neurologist, all of whom had reassured him to no effect. Myclograms had proved negative. After six months he refused further psychiatric help as being irrelevant to his problems but was referred back three years later after a laminectomy and removal of a disc had made no difference to his pain. He had not worked for four years and was supported by his wife. He spent most of his day resting. After two visits he once again ceased attending as he felt that talking and tablets were not doing him any good. At no stage did he show any evidence of anxiety or resentment.

14. Mr. M.H. aged 27 had been concerned with his urinary function for four years. This preoccupation with the functioning of his bladder began when he

noticed that he was dribbling after micturition. He also complained of headaches, difficulty in breathing, and a tightness in his stomach. He showed no marked anxiety or depression.

He was a steelworker, married with no children. He had a twin brother who lived very close by with his wife and children. The patient was quite unable to get on with his sister-in-law who he thought envied their childless state. At times he and his brother had almost come to blows and this situation had been particularly bad at the onset of his illness. One of his main worries was that his mother should not get to hear of their argument. He had been investigated and reassured but continued to worry and observe his urinary function. He was treated with chlor diazepoxide and psychotherapy aimed at helping him to ventilate his feelings about his brother.

He continued to complain of urinary dribbling, but gradually improved and continued to work normally. After 14 months he reported feeling much better and was discharged.

15. Mr. H.W. aged 53 years was referred from the department of medicine under whose care he had been treated for pernicious anaemia for eight years. For five years he had complained of a griping abdominal pain which was unrelated to meals and did not respond to any treatment. No explanation for the pain could be found.

The patient was the youngest of seven children. He was married with a nineteen year old daughter and worked as the driver of a refuse collecting lorry for fifteen years. He was an obsessional individual with high standards and was quite unable to express any aggressive feelings. He harboured strong feelings of resentment towards the doctors who had not diagnosed his condition when he first became ill.

He was examined physically and another barium meal carried out which was normal, but he continued to complain and be preoccupied with his stomach, although he would not express any specific fears or beliefs about what might be wrong.

He was treated with meprobamate and psychotherapy but two years later was quite unchanged. Throughout this time he had continued to work although he took occasional days off.

### Female Patients

#### A. "Secondary Hypochondriasis"

##### I. Hypochondriasis and Depression.

1. Mrs. A.H. aged 46 had felt depressed, tearful, lacking in energy and initiative for four weeks. She was preoccupied with her vision which she felt was going dim. She thought she had "strained" her eyes by staring too long at a television set. No amount of reassurance could alter her feeling that she was going blind.

She was the third of five children, was married and had a 22 year old daughter. Four years before the patient had suffered a depressive illness which was similar in almost every detail and she had made an excellent recovery.

On the present occasion she responded rapidly to treatment with imipramine. Within three months she was much improved but then relapsed and became pre-occupied with her vision once again. After this set-back her progress was more gradual and she improved slowly over the next three months. Six months later she was completely well, with no evidence of depression or hypochondriasis.

2. Mrs. B.D. aged 53, a warehouse assistant, was referred to the department of psychiatry by a physician who had found no organic basis for her complaints. She said that she had been "depressed over my health" for five months. She complained of palpitations, "unpleasant feelings" around the heart, aching in the backs of her legs, pains in the head and back of neck, and numbness of the forefinger of the left hand. She was depressed, without energy and had lost her sense of humour. She was the second of six children, and was married but had no children.

She had always been concerned about her health and had read a "medical book" for thirty years - "it's as good as a library book to me". She first noticed the pain around her heart after being involved in an accident on her husband's motor cycle. A colleague at work told her that it might be "a clot of blood". She looked this up in her medical book and discovered that her heart was not where she felt the pain. She then began to worry about her stomach.

After being treated as an in-patient for two weeks with imipramine she improved markedly but remained mildly hypochondriacal. Two years later she was very much better. There was no evidence of depression, but she occasionally wondered whether she had "strained" a muscle around her heart in the motor cycle accident.

3. Mrs. E.A. aged 49 had been depressed, tense and unable to sleep for four weeks. She complained that her nose was blocked and that she was constantly producing mucous from it. She was examined by an ear, nose and throat surgeon who found no abnormality.

She was treated with electroconvulsive therapy as an in-patient and made a limited recovery. She was less depressed but still convinced that her troubles were due to a blocked nose. Treatment was continued with phenelzine

but she continued to complain of being tired and having pains in her head and neck. She was convinced that her nose was the main problem and saw a herbalist who gave her an inhalant. This gave her some relief but only of a temporary nature. She bought innumerable inhalants and gargles, but all to no effect. Her husband reported that she spoke incessantly about her complaints. After two years of treatment she improved briefly but relapsed when her husband had an operation, and was re-admitted. She was given electroconvulsive therapy and showed some improvement in her mood but continued to complain. She was seen by an endocrinologist who found that there was equivocal evidence of hypothyroidism. Treatment with thyroxine made no difference to her complaints. The depression eventually cleared up but she continued to complain about pains in the head, stuffiness of the nose and cracking in the ears. She obtained a job as a barmaid. One year later she was still complaining about physical symptoms but managing to do her work.

4. Mrs. L.H. aged 70 years was transferred from a surgical ward. She had been admitted for investigation of epigastric pain of three years duration. Gastroscopy revealed a fairly large gastric ulcer on the lesser curvature which was considered to be benign. She was profoundly depressed and said she had no appetite for one month. One week previous to admission her paid had stopped × and she was convinced that her ulcer had burst and "the poison has gone all over my body". She believed she had been transferred to another ward to die.

She was the third of five children and had never married. Her father had died of a "burst ulcer" and this had been a great shock.

She was treated with electroconvulsive therapy and made an excellent recovery. One month later there was no evidence of depression or hypochondriasis.

Two years later she became deeply depressed once again and on this occasion was preoccupied with her bowel function. Her response to electroconvulsive therapy was again dramatic and all her symptoms cleared completely.

5. Mrs. E.S. aged 64 years complained of "screwing pain in the head" of fourteen months duration. She complained of peculiar feelings all over her body and felt that she was going blind. For twelve months she had been depressed and without energy. She had been treated for depression 14 years previously following a suicidal attempt. She was an only child, was married and had one daughter.

Physical examination revealed no abnormality, but she could not be reassured that she was not going blind. She was treated with electroconvulsive therapy and made a complete recovery within six weeks. Three years later she presented with a depressive illness and was again preoccupied with her vision and pain in the head. She was treated with electroconvulsive therapy and within eight weeks was completely well and was discharged.

## II: Hypochondriasis and Anxiety.

6. Mrs. E.H., a typist aged 34 years said "I've got a stupid idea that I will probably die of cancer". This fear had been present for two years. During the six months before her fears began a number of people she knew "seemed to die of cancer". At first she feared that she might have cancer of the throat and was seen by an ear, nose and throat specialist who reassured her temporarily. However, before long her fears of cancer returned.

She was the third of four children and had married her first husband at 19 years of age. She had one child who was now 14 years old. The marriage

was an unhappy one and she divorced her husband after he had been violent to her. She re-married at the age of 29 years but always felt guilty as she was a Roman Catholic and therefore should not have divorced. She was terrified of falling pregnant. The patient was a tense, anxious person who had always been afraid of the dark and closed spaces. She was an obsessional personality and had been conscious of her breathing for many years.

She was treated with psychotherapy and chlordiazepoxide but only showed temporary improvements. She attended a psychotherapeutic group with some benefit but continued to be anxious and afraid of dying. At no stage did she stop working, and although she still had occasional fears of cancer when seen two years after referral she stated that she felt very much better.

7. Mrs. P.S. aged 28 years, a shop assistant, complained of difficulty with swallowing, a fear of choking to death, breathlessness, palpitations and sickly feelings of four months duration. She was afraid that she might die of a heart attack. She had been seen by a physician who had reassured her, but she continued to be concerned about her health and constantly asked for help and reassurance.

She was the second of four sisters and was considered delicate as a child. She took no part in sport and a doctor told her that she had outgrown her strength.

She married at the age of 26 years a man who had had an ileostomy for ulcerative colitis. She found that she could not enjoy intercourse and gradually became tense and anxious. She began to fear that she might have a bad heart and her husband might develop cancer.

She was treated with psychotherapy and Diazepain but it was not possible to reassure her over her fears of disease except for very short periods of time. Four years after she was first seen she was still complaining of difficulties

with swallowing and breathing. She was not capable of coping with all her housework and had to rely on help from relations and her husband.

8. Mrs. O.D., aged 29 years, a petrol pump attendant, complained of tightness of the chest, palpitations, attacks of shaking and difficulty with breathing for four weeks. She was afraid that she might die of a heart attack or a brain tumour. Physical examination revealed no abnormality but it was not possible to reassure her on this.

She described a very unhappy childhood. Both parents were often drunk and she and her brother feared them.

She married at 17 years of age and had two children. Her husband was a Maltese and she described him as having a "vicious temper". Three years before her illness began she had become involved with another man. This affair ended after two years but shortly before her illness began he called at her place of work and she felt she was still in love with him. He did not come again, but she felt he might come again. She became afraid of her husband finding out and terrified of what he might do. It was at this point that her fears of heart disease began. She left her job and felt unable to do her household chores.

She was treated with Diazepam and psychotherapy but made little progress and was admitted to the day hospital for a period of nine weeks after which she felt much improved. However, eight months later she was concerned about her health again and was unable to cope with her work.

9. Mrs. D.F. aged 33 years said "everything I have wrong with me I think is cancer". This fear had been present for a year since a friend died of cancer of the breast and a cousin had a leg amputated for a "cancer". She was constantly

looking for any sign of cancer in any part of her body.

She was the older of two children and described a happy childhood. She worked as a clerk until she married at the age of 18 years. Her husband had an operation for a hydrocoele when she was 25 years old and since then had lost interest in sexual intercourse. When she was 27 years old she began seeing another man but broke off the affair when she was 30 years of age. She then adopted a baby "for the affection". However her male friend still visited her occasionally. She was able to cope with her household chores.

She was treated with psychotherapy and Diazepam but made very little progress although she was not severely incapacitated. After two months she refused to come any more.

10. Mrs. J.J. aged 30 years, a shopkeeper, said "I think of nothing but my breathing". She felt that she was not taking air in properly, that there was an obstruction preventing air from going to the base of her lungs. She felt as if each breath would be her last. This had been present for three years. Reassurance from a physician who had examined her did not help.

She was an only child. Her father who had died one year before her referral had suffered from tuberculosis as long as she could remember. Her mother was an extremely hypochondriacal individual about her own and the patient's health.

The patient married at the age of 21 years and had three children. Her fear of dying began when she had a retained placenta following the birth of her youngest son. She was anaemic afterwards and became preoccupied with her breathing. Since then she had also become afraid of further pregnancies.

She was treated with chlordiazepoxide and psychotherapy. She gradually improved and continued to cope with her greengrocer's shop. After five months

she stopped attending although she still had some fears of dying. Her family doctor reported 18 months later that she was completely well.

B. Primary Hypochondriasis.

11. Mrs. A.F. aged 27 years, an art teacher, complained of knife-like pains in the chest, aching in the shoulders and back, and a dead feeling in her muscles. This had been present for two years.

The patient was the eldest of three children. Her father had complained of "pain in the heart" for many years but doctors could find no cause. The patient had always been a tense individual and had enuresis up to the age of 7 years. She married at the age of 26 years a widower with one child. She felt that her husband did not pay her enough attention, particularly since the birth of their seven month old child. She did not enjoy doing housework and wanted to teach again.

No evidence of organic pathology was found, but the patient continued to complain and said she was sure she "produced too much acid".

She was treated with psychotherapy and chlordiazepoxide. She continued to complain of pain in the neck muscles and exhaustion; however, she took a teaching post. After two years she was still complaining of pains in her neck and shoulder but said that her husband had improved in his attitude and she was feeling less tense. She was discharged.

12. Mrs. R.F., a widow aged 75, said that she had not been well for 31 years. She complained of a burning pain in the spine and stomach and "sticky feeling" in her back. She said her feet were the only place where she had no pain.

She was the youngest of eight children and was always considered a delicate ailing child. She missed a great deal of school due to "biliousness"

and her mother would not let her work at first because she was "too delicate". Eventually she worked in a factory.

She married aged 26 years and had three children. Her husband died when she was 57 years old. Since then she had lived alone and was very lonely. Physical examination revealed no abnormality but reassurance was without effect. The patient tended to describe her symptoms all over her body in a rather pleased way. She denied ever worrying about any specific disease.

Two years after first attending she was exactly the same and had not responded to Diazepam or impramine. She showed no anxiety or depression but simply recited her complaints.

13. Mrs. A.M. aged 49 years, a warehouse worker. said that she had pains in her abdomen and back for one year. However, she added that there had hardly been a time in her life when she had been entirely free of pain. No cause had ever been found.

She was the fifth of seven children and had many headaches as a child. She married aged 24 years and had two children aged 24 and 18 years.

During psychotherapy she said that she first had pains in her legs when she discovered her husband was being unfaithful 15 years before.

Since then she had never felt sure of him and continued to have pains. At times her legs became weak and she "collapsed". No physical abnormality was found and she was reassured. She was treated with chlordiazepoxide but continued to complain of pains in her back, abdomen, calves, and head. She was concerned about them and thought she might have displaced a bone while shaking carpets. She attended for "supportive" psychotherapy

for four years but did not improve. However she was able to do her housework. She felt she could never be really sure of her husband and that he had spoiled her life.

14. Mrs. R.P. aged 49 years said "I am one big pain". She complained of "aching and cracking of the body" for three years. She showed no evidence of depression or anxiety but complained volubly

She was the youngest of four children and described a very sheltered life. She had never left home until she married at the age of 46 years to a man ten years her junior. Shortly after, she realised that he was an alcoholic but felt that she could not leave him and depend on her family. No organic pathology was found but the patient could not be reassured - in fact she constantly interrupted to describe her symptoms in greater detail. She was admitted but took her own discharge after six days. Twelve months later she was no different, still complaining of aches and pains all over her body.

She was treated with chlordiazepoxide but did not respond. She could not accept any psychological explanation for her symptoms, although she did not offer any. She refused to attend for further treatment.

15. Mrs. A.W. aged 40, a non-practising State registered nurse, said she had not felt well for five years. She felt as if "my endocrine system is upside down". She complained of "sinusitis" and "tonsillitis" and felt that she was losing excessive calcium with her menses because her teeth seemed crumbly. She had also noticed this in her daughter.

The patient had been examined by a physician in the Department of Medicine of the University of Sheffield but could not be reassured. On each visit she spoke volubly and for long periods about her "tonsillitis" and "sinusitis".

At other times she felt that "my thyroid is pressing on my trachea" and that there was menstrual blood in her which "wanted to come out".

She had one younger sister with whom she had argued a great deal after her father died a year previously. Her mother had died twelve years before of "cancer of the stomach" and had also had "sinus trouble". The patient had tremendous feelings of hostility towards her sister who she felt had been favoured by her father.

She constantly criticised her doctors and spoke of going to London for private treatment. She was treated with Diazepam but two years after referral was no different and still convinced that her sinuses and tonsils were the source of all her complaints.

Appendix C

Psychiatric Publications

# THE PSYCHIATRIST'S ROLE IN THE INTERVIEW SITUATION

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## INTRODUCTION

Psychiatrists have become increasingly interested in the investigation of factors influencing a patient's improvement or deterioration during treatment (1). The problem exists both for those using largely physical or pharmacologic methods, as well as for those using mainly psychologic methods. There is little doubt, however, that in the field of psychiatry in general and psychotherapy in particular, unique difficulties are encountered, especially by researchers who wish to bring experimental methods to bear on the interview situation without having it too radically distorted by the requirements of scientific rigor. In this paper we propose to discuss some of these difficulties. This discussion will be followed by an account of an experiment we have conducted which is relevant to these problems.

The variables operating in a therapeutic interview situation between a psychiatrist and a patient may be listed as follows:

### I. *Variables Originating in the Doctor*

a. Those perceived "directly" by the patient in the interview.

1. Facial appearance, voice, content of speech (2), mannerisms, sex, age, and ethnic group.
2. Dress, nature and arrangement of office furniture and ornaments.

b. Variables perceived "unconsciously" or "indirectly" by the patient through the medium of those mentioned in Ia. These variables may be collectively considered as functions of the doctor's personality. They would reflect his life's experiences, education, and the consequent theoretical orientation which he brings to the psychotherapeutic interview.

c. Factors originating in the doctor (of which the patient may become aware before the interview) such as social status, academic standing, position in the hospital or professional hierarchy, personal facts concerning the doctor's family and friends, and the like. This sort of information may obviously be obtained in a variety of ways, both active and passive.

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## II. *Variables Originating in the Patient and Acting on the Psychiatrist*

Variables a., b., and c. will be largely similar to those originating in the psychiatrist. In addition, however, there is the variable

d. The patient's illness, its nature and severity.

The psychiatrist's behavior will probably be influenced by whether the illness appears to have a good or a bad prognosis and whether or not it seems suitable for the treatment he has to offer. This may even depend on whether the patient is seen in the morning or in the evening—as in a depression with a diurnal variation.

The patient's account of any previous treatment he has had and his feelings about it will also influence the psychiatrist.

## III. *Variables Originating in the Environment*

a. Those acting on the psychiatrist.

1. Demands made on his time by other duties.
2. The attitudes of society as a whole and of his own colleagues to the type of therapy he is practicing.
3. The demand for therapeutic success and evidence of academic prowess resulting in the doctor's desire to obtain cures and gather material for publication (needs which might tend to conflict).
4. Economic pressures on the psychiatrist which demand that he does work of a quality (and quantity) sufficient to earn him the income he requires.

b. Those acting on the patient.

1. Current attitudes to the treatment he is receiving—both good and bad.
2. Attitudes toward the treatment in his family and social circle.
3. Economic considerations which press for a treatment which always seems to be "doing something" and which works in the shortest possible time.
4. Difficulties involved in getting to the psychiatrist, such as weather, transport, distance.

The variables listed above have obviously been grouped rather arbitrarily since, in fact, some may act simultaneously on both psychiatrist and patient. The point we wish to emphasize, however, is that all the variables listed, plus many others which would undoubtedly arise in a particular situation, demand to be taken into account when any aspect of an interview between a psychiatrist and a patient is being evaluated scientifically. The difficulties involved in such a task are considerable.

Frank (3) has lucidly discussed the possibility that the various forms of psychotherapy are effective because of factors which they all have in common. Clearly these factors are not related to the theoretical orientations of the psychiatrists but more probably to certain personality factors which makes them therapeutically effective in the appropriate circumstances. Some psychiatrists might obtain results with only a narrow range of patients, while others function to good effect with a wide selection of patients. If the therapist's time is to be used economically, it is imperative that he have some idea of the situations in which he might expect to be most effective.

In the present context, we are concerned with variables originating in the psychiatrist. The simplest method of examining these variables would seem to be by comparing psychiatrists who are obviously very different with regard to some or other characteristic. This is possibly one of the most important points to bear in mind when attempting this type of experimentation. If the psychiatrists being compared do not show marked differences, either on confrontation or on psychologic testing, it is highly likely that the results obtained will be inconclusive and difficult to interpret.

At the same time it is also useful to choose the psychiatrists to be compared, so that the aspects in which they differ can, to some extent, be isolated and measured either directly or indirectly. For example, if one wished to find out whether a patient tended to confide more freely in a more experienced rather than in a less experienced psychiatrist, it would be important to choose two doctors who did not differ markedly in any other characteristic.

If, on the other hand, one wishes to show that the psychiatrist's personality is an important factor, it would be imperative to control the "experience variable." In the following example we have examined mainly the psychiatrist's personality as a factor. We have tried to exclude the voice and speech content variables by a simple device of using a "silent interview" technique. This does away with the need for recorders and other expensive pieces of apparatus, which on the whole probably tend to distort the interview situation. Measuring the personality of the psychiatrist is not easy. Impressionistic descriptions are of considerable value here, if possible by independent observers. The fact is well known that psychiatrists are sophisticated enough about questionnaires to be able to present whatever impression of themselves they may wish. In the following experiment we have used a questionnaire method but in addition we will discuss some of the differences between the interviews from an impressionistic point of view.

A further consideration is that the psychiatrist may modify his behavior in the experimental interview situation so as to present himself in the most favorable light. We have, however, gathered the impression that it is not easy for doctors to alter their interview technique in this way, even if they should wish to do so. A possible factor preventing this occurrence in the present experiment was that the environmental factors acting on the psychiatrists were operating throughout the experiment in the usual way, since the interviews had to be fitted into the daily routine. Another factor was that the psychiatrists taking part were under the impression that the information being gathered for examination was their notes on what the patients said. They were unaware that the length of time which the patient spoke was to be examined statistically. Obviously this state of affairs will not always exist in such an experiment. It is for this reason that such experiments should not be conducted under conditions divorced from the everyday reality of the psychiatrist's clinical routine.

The following experiment can obviously only be regarded as a small beginning. It demonstrates particularly the effect on patients of psychiatrists with widely differing personalities and, in addition, describes a useful technique which probably results in minimal distortion of the usual clinical situation.

#### MATERIAL

##### 1. *The Interviewers*

The interviewers were two doctors with four to five years' experience in psychiatry. They will be referred to as interviewer M and interviewer L. There were fairly marked differences between them with regard to appearance, accent, and conversational behavior. Interviewer M tended to be more directive, while L was the more permissive. Both interviewers filled in Kreitman's psychiatric orientation questionnaire (4). The results are shown in Table I and their significance is discussed below.

TABLE I  
Scores on Orientation Questionnaire

<i>Observer</i>	<i>A Scale</i>	<i>O Scale</i>
L	+ 82	- 19
M	+ 12	+ 16

## 2. *The Patients*

Twelve patients were chosen at random from those attending the Day Hospital of the Whiteley Wood Clinic, which is the psychiatric department of the University of Sheffield Teaching Hospital. Their ages and diagnoses are listed in Table II. None of these patients could be de-

TABLE II

<i>Patient</i>	<i>Sex</i>	<i>Age</i>	<i>Diagnosis</i>
1	M	45	Chronic Anxiety State
2	F	72	Depressive Illness
3	F	70	Depressive Illness
4	M	41	Depressive Illness
5	F	73	Depressive Illness
6	F	45	Personality Disorder
7	F	51	Depressive Illness
8	F	56	Depressive Illness
9	M	52	Depressive Illness
10	M	49	Paranoid Psychosis
11	F	18	Obsessional Neurosis
12	F	45	Depressive Illness

scribed as retarded. Interviewer M had clinical responsibility for all the patients, as doctor supervising the day hospital. None of the patients were engaged in systematic psychotherapy with either of the two doctors. Patient number 2 was quite new to both doctors at the time of interview, and patients 12 and 1 had been seeing L in the out-patient department before admission. The rest of the patients had not been interviewed by L before the experiment.

### METHOD

The patients were seen by the two interviewers in random order. The interviews took place under similar office conditions and the participants sat face-to-face. The doctor was required to follow a standard interview procedure. When the patient was seated he asked, "Would you tell me about the way you feel?" He then noted the time and did not say anything more until the patient had been silent for one minute. He then noted the time again, and in this way a measure of the conversational activity was obtained.

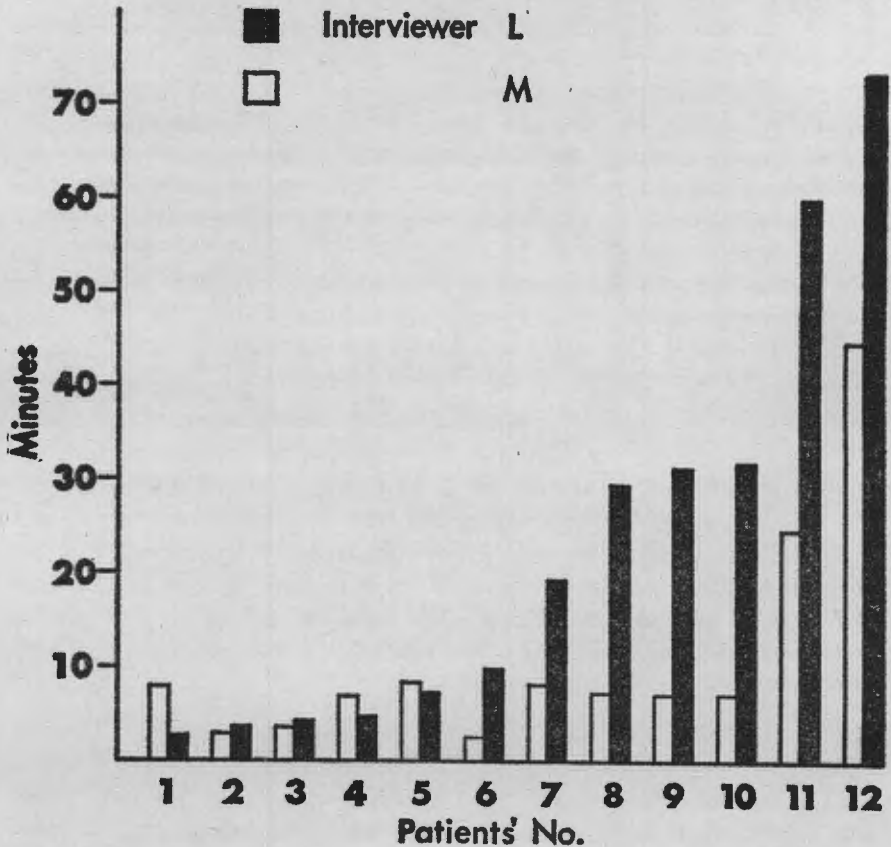
Each patient was seen by both doctors within a 36-hour time-period.

While the patient spoke the interviewers made notes, but apart from the restriction on verbal communication there were no other requirements as regards their behavior.

## RESULTS

The times spoken by the patients as measured by the method described above are shown in the form of a histogram (Fig. 1). Of all the 12 pa-

FIGURE 1



tients, nine spoke longer to interviewer L. The over-all difference in the times spoken to the two interviewers were examined statistically, using the Wilcoxon Matched-Pairs Signed-Ranks Test (5), and found to be significant ( $p < 0.05$ ). The most striking differences were observed in the more communicative patients, while the reticent patients do not show consistently obvious differences in their responses to the two doctors.

The two sets of times correlated significantly (Spearman's  $\rho = 0.61$ ,  $p < 0.05$ ). This suggests that those variables relating to the patients were acting equally in both sets of interviews.

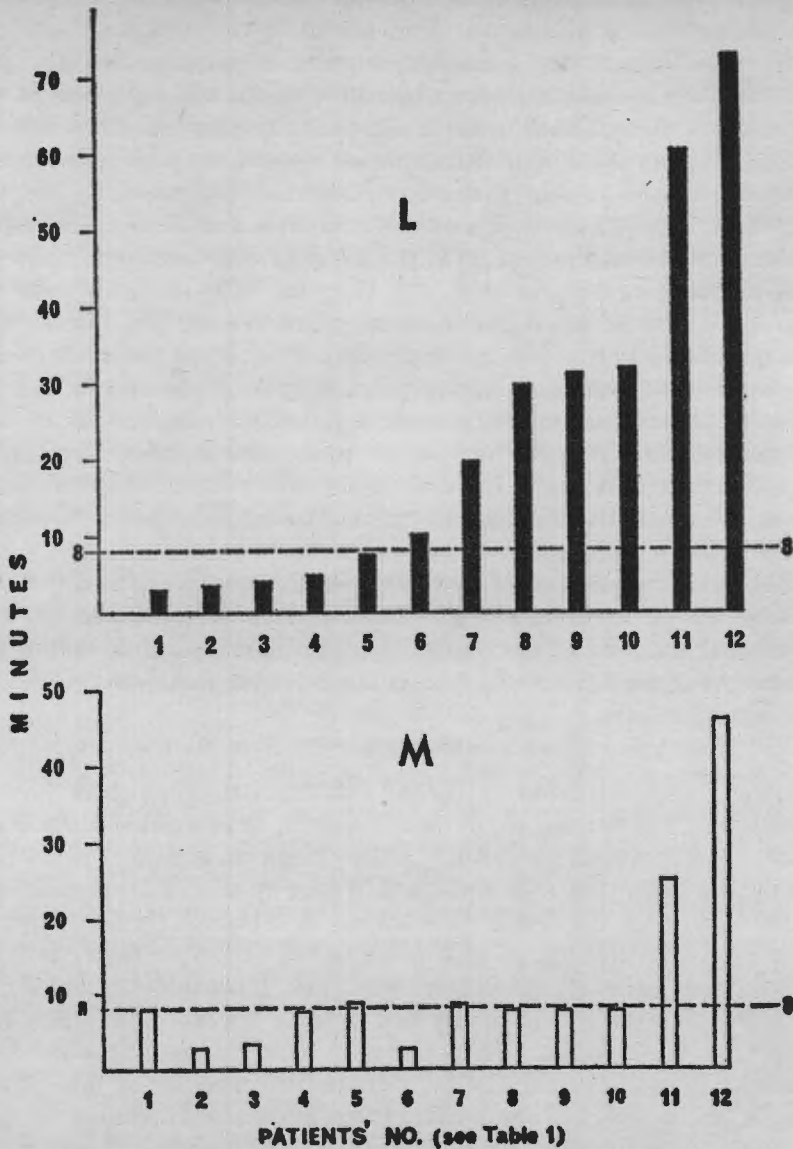
The results show that with both interviewers adopting the same passive interview technique, there was still a significant difference in the responses of the patients to the individual interviewers. It is also interesting to note the length of time which some of the patients were able to speak without verbal prompting from the interviewer. The two longest periods of time spoken were 73 minutes and 59 minutes respectively. An interesting feature is the different distribution of times obtained by each interviewer (Fig. 2). Only two of the patients spoke for appreciably more than eight minutes to interviewer M. These were patients 11 and 12 who were the most communicative of the whole group. In the case of interviewer L, six patients spoke between two and ten minutes; four patients spoke between 20 and 30 minutes, and the remaining two patients spoke for the longest time. The impression gained is that interviewer M may have a listening tolerance threshold at about the eight-minute mark which only the most communicative patients are able to cross.

The results of this experiment suggest that whatever the differences between the interviewers are, the effect of these differences on the conversational behavior of the patients is not eliminated when both interviewers make use of standard passive interviewing technique.

#### DISCUSSION

Two main questions are raised by this experiment which invite consideration. The first relates to the role played by nonverbal communications in the "wordless interview." The present study cannot provide an answer, since the fact that patients and doctors were both present in a small clinic before the actual interview makes it most likely that they had formed some impression of each other before the experiment was conducted. Furthermore, the interviewer himself brought the patient to the interview room and obviously had to say a few words to him before the set interview began. Thus, the most that can be said concerning nonverbal communication (by manner and expression) in this experiment is that it probably occurred and that the use of a technique involving minimal conversational activity did not have the effect of converting the interviewer into a completely neutral figure. Wittenborn *et al.* (6) comment on this question in a paper describing their attempt to devise a standard interview. They say: "One question we have not yet examined concerns the possible differences between interviewers with re-

FIGURE 2



spect to their stimulus value. To minimize this possible effect, the interviewers were carefully coached to handle the situation in a perfunctory manner. This was one of the most difficult phases in training the interviewers.”

The second question concerns the differences between the interviewers and the possible part they played in modifying the patient's behavior. Some of the ways in which the interviewers differed have already been mentioned. The fact that interviewer M was actually in charge of the day hospital while L had no direct responsibility for any of the patients may have resulted in differing attitudes toward giving up time for the experiment; particularly as practical considerations required that the interviews be fitted into M's normal routine as far as was possible. Interviewer M may thus have been communicating to the patients his own awareness of the pressure of his normal clinical duties. On the other hand, interviewer L also had clinical responsibilities for patients in the clinic and others in the follow-up department. Thus, when the commitments of both interviewers were taken into consideration, they did not appear to be sufficiently different and it seemed unlikely that the differences in the patient's responses were due to this factor.

Another possibility which must be considered is that the interviewers' personal characteristics, such as accent and appearance, may have played a part. While neither interviewer had a "local" accent, the accent of interviewer L was the more unfamiliar and "foreign" of the two and the same would apply to his appearance. Possibly patients who feel that they themselves are somehow at variance with their environment consider an individual who is an obvious "outsider" better able to sympathize with their problems.

The role of the interviewer's psychiatric orientation in this experiment is difficult to assess. The scores obtained on the orientation questionnaire (Table II) show that interviewer M was the more organically orientated of the two. Kreitman's questionnaire is designed to measure two dimensions of psychiatric orientation. The first, referred to as the "O" viewpoint, is characterized by "a paramount interest in the organic aspects of mental illness, by avoiding all "subjective" or "intuitive" concepts." The second or "A" viewpoint "derives largely from psychoanalysis, and expresses greater interest in psychological factors . . . while relying heavily on interpersonal relations in therapy." The finding that the interviewer who seemed able to listen longer scored higher on the "A" scale and lower on the "O" scale, is not inconsistent with what might be expected. However, this is obviously an area requiring far more intensive study before any more definite conclusions can be reached.

#### SUMMARY

1. We have discussed the problem of investigating psychiatric interviews experimentally.

2. An experiment is described in which two doctors interviewed 12 psychiatric patients during a total of 24 interviews. A standard passive interview technique was used and a simple measure of the patient's conversational behavior was obtained.

3. It was found that the patients spoke for significantly longer periods of time to one of the doctors.

4. Some of the possible reasons for this differences are discussed.

*Acknowledgement.* We wish to thank Professor Stengel for his help in the preparation of this paper.

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## THE RELATION OF CORNELL MEDICAL INDEX RESPONSES TO A MEASURE OF INTERVIEW BEHAVIOUR

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A PATIENT'S verbal behaviour in an interview situation is influenced by many factors. Goldman-Eisler [2] has investigated the effect of the psychiatrist's interview behaviour on the patient. She found that the patient's "conversational tempo" seemed sensitive to the interviewer's influence. "Conversational tempo" refers to the "average period comprising an action plus its subsequent silence period". The interviewers were consistent in their behaviour except with regard to the amount of time which was spent in talk and gesture expressed as a percentage of the total time of the interview. This varied according to whether the patient was talkative or reticent.

Pilowsky and Spear [3] described an interviewing technique which attempted to reduce the stimulus value of the interviewer to a minimum. This procedure was called the Silent Interview Technique (S.I.T.). The actual method of interviewing will be described below. Patients showed consistent individual differences in the length of time they spoke to the interviewers (correlation between interviewers—Spearman  $\rho = 0.61, p < 0.05$ ). However, one examiner consistently elicited longer speech periods over the sample as a whole (Wilcoxon Matched-Pairs Signed-Ranks Test,  $p < 0.05$ ).

The purpose of the present study was to investigate whether there was a relationship between the patient's interview behaviour as measured by the S.I.T. and his complaints as measured by the Cornell Medical Index. The particular feature to be examined was the interaction between "medical" complaints, "psychiatric" complaints and interview behaviour.

### METHOD

#### (a) *The so-called silent interview technique*

When the patient is comfortably seated the interviewer says, "Would you tell me about the way you feel". He then notes the time. After this he does not say anything more until the patient has been silent for one minute. The interviewer notes the time at this point. The measure of the patient's conversational behaviour is calculated by subtracting 60 sec from the total time between the two time readings. The interview is then completed in the normal way. In the present study the patient was asked to fill in the C.M.I. All interviews were done by the same doctor (I.P.).

#### (b) *The Cornell Medical Index*

This inventory was developed as an aid to history-taking in out-patients by Brodman *et al.* [1]. It consists of 195 questions to which the patient answers *yes* or *no*. The questions are grouped under systems labelled A to R. Groups A to L form the somatic or "medical" section, while groups M to R are concerned with psychiatric symptoms. The inventory is given to the patient as a printed form which he is asked to fill in, which normally takes 10–15 min. For the purpose of this study patients were given a score for the total number of *yes* responses to the somatic section and a corresponding score for the "psychiatric" section. We thus have a measure with which to compare patients with

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regard to their response to "somatic" questions and their response to "psychiatric" questions presented in an inventory form.

#### *The patient sample*

Fifty-nine patients were taken from those attending the Department of Psychiatry either as day-patients, out-patients or in-patients. No patients were included if they were attending for the very first time. Patients with severe behaviour disorders, such as gross schizophrenic, were not considered suitable, and the sample does not include cases with organic intellectual impairment. Table 1 shows the sex and age characteristics of the sample.

TABLE 1.—SEX AND AGE CHARACTERISTICS OF PATIENTS IN SAMPLE

	<i>Males</i>	<i>Females</i>	<i>Whole Group</i>
Number	19	40	59
Mean Age	45.5	44.52	44.7
Standard Deviation	9.5	14.5	13.1

The sample included 25 patients diagnosed as "depressive illness" i.e. endogenous depression, and 20 patients diagnosed as "anxiety neurosis, hysteria and anxiety neurosis with hysterical features." There were 6 schizophrenic patients, none of whom was severely disturbed.

## RESULTS

#### *The grouping of patients according to CMI scores*

The 59 patients were divided into four sub-groups on the basis of their scores on the "somatic" and "psychiatric" section of the CMI:

*Group A* (low somatic—low psychiatric) consists of patients whose A-L score fell below the median A-L score of the whole sample and whose M-R score fell below the median M-R score.

*Group B* (low somatic—high psychiatric) consists of patients whose A-L score is above the Group A-C median score and whose M-R score is above the median AR score.

*Group C* (high somatic—high psychiatric) consists of patients whose A-L and M-R scores both fall above the respective medians.

*Group D* (high somatic—low psychiatric) consists of patients with an A-L score above the A-L median and an M-R score below the M-R median.

Table 2 shows the sex distribution and average age of each group.

Although there appears to be a difference in ages, when an analysis of variance was applied to the data, the variance ratio did not attain statistical significance at the 0.05 level. (Variance Ratio = 1.64 with 3 and 55 degrees of freedom).

Table 3 shows the average scores on both A-L and M-R sections of the CMI for each group. The average time spoken at interview is shown in the right hand column.

TABLE 2.—SEX DISTRIBUTION AND AVERAGE AGE OF EACH GROUP

<i>Group</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Mean age</i>
A (low somatic—low psychiatric)	7	14	21	45.05
B (low somatic—high psychiatric)	1	5	6	42.00
C (high somatic—high psychiatric)	7	15	22	41.7
D (high somatic—low psychiatric)	4	6	10	52.4
Totals	19	40	59	

TABLE 3.—CMI SCORES AND TIMES SPOKEN WITH S.I.T.

Group	A-L	M-R	Time (min)
A (low somatic—low psychiatric)	16.1	12.1	9.95
B (low somatic—high psychiatric)	28.5	30.5	2.88
C (high somatic—high psychiatric)	50.1	35.9	7.53
D (high somatic—low psychiatric)	42.2	15.3	16.51

It will be seen that Group D has the highest average time, followed by Groups A, C and B in descending order. As the times spoken were not normally distributed a non-parametric test was used to examine the difference between means. These were analysed using the Kruskal-Wallis One-Way Analysis of Variance [4] and the result was highly significant. ( $H = 189.9$ ; 3 degrees of freedom;  $p < 0.001$ .) Having found this, the mean time spoken by each group was compared with that of every other group using the Mann-Whitney U test (corrected for ties). The results are shown in Table 4.

TABLE 4.—TESTS OF SIGNIFICANCE BETWEEN THE AVERAGE TIMES OF EACH GROUP

Group	A	B	C	D
A		$z = 0.51$	$z = 0.77$	$z = 1.0$
B			$z = 1.21$	$z = 2.55†$
C				$U = 6.5*$

\*  $p < 0.02$  (two-tailed test)

†  $p < 0.01$  (two-tailed test)

From Table 4 it can be seen that the average time spoken by Group D (high somatic—low psychiatric) is significantly higher than the average times of group B (low somatic—high psychiatric) and group C (high somatic—high psychiatric).

#### DISCUSSION

The results of this study demonstrate a statistically significant association between a simple measure of the patient's interview behaviour and his responses to the "somatic" (A-L) and psychiatric (M-R) sections of the Cornell Medical Index. Patients with high scores on the "somatic" or "physical" section of the CMI speak for longer when the Silent Interview Technique is used. A high score on the "psychiatric" part of the CMI (M-R) is associated with relative reticence.

Could these results be due to the nature of the S.I.T.? The opening question in the interview is "Would you tell me about the way you feel?" If one assumes that patients listen very carefully to what they are asked and try to make the answers as appropriate as possible, it could be argued that if the opening question conveys a request for physical symptomatology, then patients who score high on the A-L are in a better position to respond. Similarly, patients who regard their problems as psychological may be inhibited by this question. On the whole this is an unlikely explanation since the question seems a rather neutral one, on to which patients could project their own ideas of what a doctor might want to hear from them.

A simple method of timing the patient was employed. In order to reduce the distortion of the interview situation to an absolute minimum, the psychiatrist used his own wrist-watch to do the

timing. This had a large clear face with a second hand. The purpose was to avoid the clicking noise made by ordinary stop-watches. Tape-recording was not used as it was technically difficult and since the presence of a recorder would have had to be explained to the patient and might also have distorted the situation. The interviewer tried to use note-taking as an excuse for glancing at his watch. These activities on the part of the interviewer may tend to inhibit the patient but they were probably present in equal measure for all patients.

Another factor which has to be considered is the patient's previous experience of psychiatric interviews and his experience of the interviewer. Neither of these variables was measured but the following points can be made. Of the 59 patients only 6 had no previous experience of the interviewer and these were scattered through the 4 groups. None of the patients was having psychotherapy of a formal or intensive nature. Although tape recordings were not made of the interviews, inspection of the notes kept shows that the patients in the "high somatic—low psychiatric" group spoke primarily about their physical symptoms. The notes kept were of course somewhat incomplete but the fact that this group were preoccupied by their physical symptoms and related topics, is quite clear. In the absence of proper transcripts it is, of course, not possible to make detailed comparisons between groups.

The findings of this study draw attention to some factors influencing the behaviour of a psychiatric patient in an interview situation. Patients who report more physical symptoms on the CMI are more communicative. It would appear that in addition psychological symptomatology inhibits the patient. This finding probably tallies with the experience of psychiatrists, particularly in out-patient departments, who find that they are either being exasperated on one hand by patients who keep talking about physical symptoms or, on the other hand, by those who admit to psychological problems but say hardly anything at all.

Psychological illness often presents mainly as a problem of communication. Most psychiatric patients have difficulty in accepting the nature of their problems and use various defences to avoid facing them. Wolff [5] in discussing the significance of psychosomatic symptoms as seen in psychotherapy, states "What strikes one about all these patients is that at first they all resist to a greater or lesser degree any suggestion that their physical symptoms could be of emotional origin".

Perhaps this situation has its roots partly in the individual's childhood experiences. It is probably true that in most families, while there is such a thing as a "physical complaint" with generally known and accepted channels for seeking help, this is not usually the case for psychological problems. The reasons for this will not be discussed here but the results of this state of affairs must be far-reaching. When one considers that the doctor is generally stereotyped as an individual to whom one communicates physical complaints, it should not be surprising that patients respond to him in the light of this stereotype. (No doubt the fact that many doctors live up to this stereotype does not help matters.) With so useful a defence mechanism to hand, it can hardly be surprising that patients make full use of it. To resist this tendency must be particularly difficult for those patients who do, in fact, have some functional physical disorder such as tremor, tachycardia, etc.

These patients are probably acutely aware from the doctor's attitude of their difficulty in communicating their needs effectively. The discussion of this precise problem and its consequences often benefits the patients, helps to establish rapport and aids the patient in discussing his psychological problems more freely.

#### SUMMARY

1. Using the "Silent Interview Technique" (S.I.T.) a measure of interview behaviour was obtained from a sample of 59 patients.

2. Each patient filled in the Cornell Medical Index (CMI) and was given a score for the somatic (A-L) and psychological (M-R) parts of the questionnaire. On the basis of these scores the 59 patients were divided into 4 independent samples. These were (a) low somatic (A-L) and low psychiatric (M-R); (b) low somatic and high psychiatric; (c) high somatic and high psychiatric; (d) high somatic and low psychiatric.

3. The high somatic low psychiatric sample spoke for significantly longer with the SIT than the high psychiatric low physical sample ( $p < 0.01$ ) and the high psychiatric high physical sample ( $p < 0.02$ ).

4. These results are discussed with regard to the possible explanations for them and also their clinical implications.

*Acknowledgements*—I wish to acknowledge the help and advice of Professor E. Stengel and Dr. W. Lawton Tonge in the preparation of this article.

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AN EXPERIMENTAL STUDY OF  
ATYPICAL PHANTOM PAIN

BY

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## An Experimental Study of Atypical Phantom Pain

By I. PILOWSKY and A. KAUFMAN

A number of writers have drawn attention to the importance of emotional factors in phantom limb pain (Kolb, 1950, 1952; Simmel, 1956; Russell, 1959; Von Hagen, 1963). Kolb (1950, 1952) reported an association between the discussion of certain emotionally loaded topics and accesses of pain in the phantom. Stengel (1965), in his Maudsley Lecture, discussed the role played in these experiences by the psychological mechanism of identification with others. He briefly referred to the patient whom we have studied.

### CASE HISTORY

Mr. L.V., a 61 year old cutlery worker, underwent a high above-knee amputation of the right leg following a mine accident when he was 15 years old. A phantom limb has been present ever since and has been the site of almost continuous pain, which has been relieved only temporarily by various treatments, including excision of a sciatic neuroma in 1937 and a tractotomy in 1943. He came to the Department of Psychiatry on 7th May, 1964, complaining of phantom pain and insomnia. On examination there was no evidence of any circumscribed psychiatric syndrome. There was hypoalgesia to pin-prick below the D6 level on the right side. His stump was particularly sensitive to palpation and light touch in the region of the operation scar. He described burning pain in the foot, toes and heel of the phantom limb—"as though a fire were being held to my foot." In addition, he reported that scenes of violence made his pain much worse. Thinking of operations or accidents involving bodily injury had the same effect. When these topics were raised during interviews he would wince and ask for the subject to be changed.

We decided firstly to assess the reliability of his reports, i.e., whether he would report

similar degrees of pain in response to the same stimulus encountered on two separate occasions. For this purpose the Thematic Apperception Test (TAT) cards were used as stimuli. Secondly we proposed to administer this test in a standard manner to see if the story content for the various TAT cards bore any relation to the amount of pain reported in the phantom when the patient viewed these stimuli for the first time.

### METHOD

The patient was tested over a three day period. There were three test sessions separated by 24 hour intervals.

*Day 1.* Twenty-nine TAT cards were individually handed in the order of listing in the test manual to the patient. He was required to look at each card for five seconds and then rate the amount of pain he felt. A ten centimetre line labelled "No pain at all" at the right end and "As painful as it could possibly be" at the left end was used to record the response. The patient rated the degree of pain by making a pencil mark on the line. A "pain score" was obtained by measuring the distance from the right end of the line to where it was intersected by the pencil mark. This technique is a modification of that described by Clarke and Spear (1964).

*Day 2.* The procedure was the same used on Day 1.

*Day 3.* The TAT cards were administered in the standard way and the patient was instructed to make up a story for each picture. The stories were tape-recorded.

### RESULTS AND DISCUSSION

*Reliability of Pain Scores.* The Spearman Rho Correlation between the pain scores obtained on Days 1 and 2 was 0.75 ( $p < 0.01$ ).

*TAT Stories and Pain Scores.* Examination of the TAT material suggested that the cards could be grouped into three major categories: (1) those which evoked references to loss of physical integrity through injury, disease or tissue damage metaphor; (2) cards which evoked references to psychological problems brought about by interpersonal conflict; (3) cards which evoked references to neither of these categories nor other emotionally charged material. These three content areas were labelled "Body Damage", "Psychological Distress" and "Neutral", respectively. If a card evoked elements of both Body Damage and Psychological Distress it was placed in the former category. The cards were sorted into three groups according to the above criteria by one of us (I.P.) who had no knowledge of the pain scores.

The pain scores from Day 1 were then distributed on the basis of the content elicited by their respective TAT cards. Thus there were three sets of pain scores, corresponding to the three sets of TAT cards described above. Figure 1 illustrates the clustering of high pain

scores in the Body Damage category, intermediate pain scores in the Psychological Distress category and low pain scores in the Neutral category. According to the Mann Whitney U test the differences between any two sets of pain scores were statistically significant: Body Damage vs. Psychological Distress, ( $U = 8$ ;  $p < 0.02$ ); Body Damage vs. Neutral ( $U = 2$ ;  $p < 0.002$ ); Psychological Distress vs. Neutral ( $U = 23$ ;  $p < 0.05$ ). Thus TAT cards which evoked high pain scores on Day 1 tended to elicit stories of the Body Damage variety, while cards which evoked intermediate or low pain scores tended to elicit stories of the Psychological Distress or Neutral type, respectively.

SUMMARY AND CONCLUSIONS

A patient with atypical phantom limb pain complained that his pain was aggravated if he saw or thought about scenes of violence. This phenomenon was investigated using the Thematic Apperception Test (TAT) cards as pain provoking stimuli. Using a self-rating method it was found that the patient's report of pain could be reliably assessed and a statistically signifi-

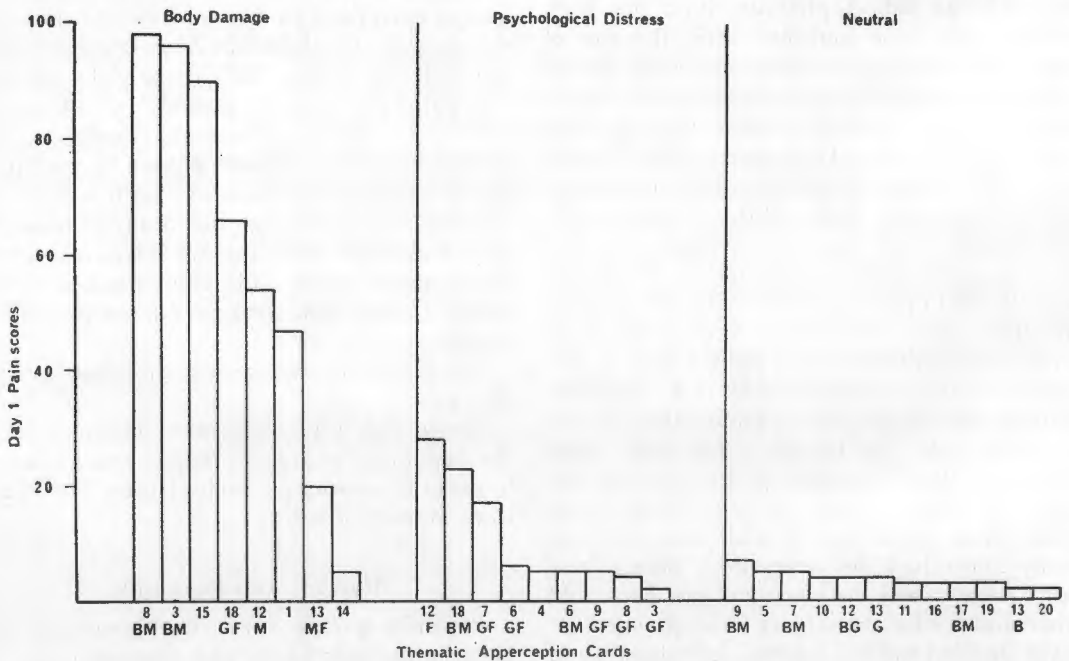


FIG. 1.—Pain scores grouped by TAT content.

cant relationship was shown between the degree of pain reported and subsequent TAT projective material. The technique described here may prove useful in the delineation of psychic events which provoke or intensify physical symptoms.

## ACKNOWLEDGMENT

We wish to acknowledge the help of Professor E. Stengel who suggested this study to us.

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# A Study of Long-Term Patients Attending a General Hospital Psychiatric Department\*

By I. PILOWSKY and J. D. STIRLAND

During the past ten years much attention has been paid to the question of chronicity in mental hospital patients. At the same time there has been a trend towards establishing units (often attached to general hospitals) for short-stay in-patient and possibly day-patient care. In these units, where the emphasis is on out-patient treatment, it is soon apparent to the psychiatrists staffing them that they, too, have to cope with a population of chronic patients. They tend, however, to be out-patients rather than in-patients, and are probably better described as "long-term". Heasman (1962) gave a graphic description of this problem in the non-psychiatric out-patient department and compared it to that of the "institutional neurosis" as described by Barton (1959). The purpose of this paper is to describe the situation in a Teaching Hospital Department of Psychiatry attached to a general hospital.

## AIMS AND DEFINITION

In this paper we wish to describe the clinical characteristics of patients who can be designated "long-term" and to contrast them with control groups composed of new patients.

A long-term patient was defined as one who had been registered with us for more than two years at the time of sampling. Discontinuity of attendance did not disqualify from inclusion in the sample and is considered later.

## THE SETTING

The department in which this study was carried out is part of the United Sheffield

\* Based on a paper presented to the Sheffield Regional Psychiatric Association on 4 April, 1964.

Hospitals. There is in-patient accommodation for 13 male and 25 female patients. There is also a day hospital for 20 to 25 patients. The average in-patient stay is five weeks. There are about 800 new referrals to the out-patient clinics each year and more than 10,000 out-patient visits are made each year—a fact which tends to undermine the "ivory tower image" of the psychiatric teaching department. No patients are admitted under compulsory orders.

## THE PATIENT SAMPLE

The names and dates of first referral were obtained of all out-patients, day-patients and in-patients who received treatment in any form during two separate weeks in November and December 1962. From this sample we obtained the names of 79 patients who had been registered two or more years previously. All the case notes were traced and the required information obtained from these.

## THE CONTROL GROUPS

Two control groups were used. Both were composed of randomly selected new patients; the first, consisting of 200 patients, was used for comparing variables such as sex, civil status, social class, number of children and history of previous treatment. This control group had been collected by Hall (1962) in this department.

The second control group, consisting of 169 female and 136 male consecutive new patients, was used to compare ages and diagnostic items. This group had been collected by one of us (I.P.) for another purpose. The two control groups did not differ significantly with regard to sex distribution and broad age groupings.

PATTERNS OF ATTENDANCE AND ADMISSION

Sixty-two of the 79 patients had originally been referred by their general practitioners and the remainder by other hospital departments. The average length of time since registration for the long-term group as a whole was 3 years 4 months. The patient attending longest had been registered over 6 years previously. Men averaged 3 years and women 3½ years. They attended the out-patient clinic on an average of once every 6½ weeks. The men came slightly more frequently than the women.

Table I shows the number of times patients in this group were admitted to the in-patient unit and the day hospital. The average stay was 4½ weeks. Fourteen patients had never been admitted to either.

TABLE I  
Frequency of Admission to In-patient Unit and Day Hospital

Admissions	In-patient	Day Hospital
0 .. ..	18	47
1 .. ..	29	20
2 .. ..	18	8
3 .. ..	7	1
4 .. ..	6	3
5 .. ..	1	0
	79	79

SEX

Perhaps the most interesting finding is the preponderance of females in the long-term group. This is shown in Table II.

The average age on referral of long-term males was 44.6 years, S.D. = 11.5, while the male controls had an average age of 39.8 years, S.D. = 14.5. The long-term females had an

average of 39.9 years, S.D. = 11.5 and the control females an average age of 37.5 years, S.D. = 15.0. There were no statistically significant differences between the long-term males and females, nor between each of these and the corresponding new patient control group. An examination of the distribution of ages shows a relative preponderance of females under 19 years among the new referrals (16 per cent, as opposed to 5 per cent, in the long-term female group).

TABLE II  
Distribution of Sexes in the Long-Term and Control Groups

	Male	Female	Total
Long-Term ..	16 (20.3%)	63 (79.7%)	79
Control ..	83 (41.5%)	117 (58.5%)	200
Total ..	99	180	279

$\chi^2 = 10.26; df = 1 \quad P < 0.01$

SOCIAL CLASS

The Hall Jones grading of occupations (1950) was used to determine the social class of patients. The classes were grouped as follows: 1-3 (Professional, high administrative, managerial, executive, inspectional, supervisory and other non-manual higher grade); 4-5 (Inspectional, supervisory and other non-manual lower grade, skilled manual and routine grades of non-manual); 6-7 (Semi-skilled and unskilled manual).

From Table III it can be seen that the long-term female group shows a significant under-representation of the upper social classes. In the male sample a similar trend is present but does not achieve statistical significance.

TABLE III  
Distribution by Social Class

Social Class	Females			Males		
	Long-term	Control	Total	Long-term	Control	Total
1-3 ..	3 (5%)	20 (17%)	23	1 (6%)	10 (12%)	11
4-5 ..	32 (51%)	46 (39%)	78	5 (31%)	44 (44%)	49
6-7 ..	28 (44%)	51 (44%)	79	10 (63%)	29 (35%)	39
Totals ..	63	117 (100%)	180	16	83 (100%)	99

$\chi^2 = 10.07$

df = 2

P < 0.01

$\chi^2 = 3.19$

df = 1

n.s.

CIVIL STATE

The long-term patients do not differ from new patients with regard to civil state. Of the long-term females 54 (85.7 per cent.) were married, and of the long-term males 14 (87.5 per cent.) were married. In the control group 80.3 per cent. of the females and 77.1 per cent. of the males were married.

NUMBER OF CHILDREN

Table IV shows that the long-term female patients tend to have smaller families than the new female patients. The small numbers in the

male sample do not allow for statistical comparison, but it is interesting to note that there are no men with more than two children in the long-term group.

PREVIOUS TREATMENT

The long-term patients did not differ significantly from the new patients with regard to a history of previous psychiatric treatment: Long-term females 17 (27 per cent.), controls 41 (35 per cent.); long-term males 8 (50 per cent.), controls 25 (30.1 per cent.).

TABLE IV  
Size of Family (excluding single patients)

Number of Children	Female		Male	
	Long-term	Control	Long-term	Control
0	6 (11.1%)	18 (19.1%)	5 (35.7%)	20 (31.3%)
1-2	39 (72.2%)	48 (51.1%)	9 (64.3%)	29 (45.3%)
3+	9 (16.7%)	28 (29.8%)	0	15 (23.4%)
<b>Totals</b>	<b>54</b>	<b>94</b>	<b>14</b>	<b>64</b>

$\chi^2 = 6.34$

df = 2

P < 0.05

DIAGNOSIS

The diagnoses examined were those made when the patients were first seen. The comparison of diagnostic items for females is shown in Table V, and shows that three items occur more frequently in the long-term sample. They are Anxiety/Hysteria, Personality Disorder and Hypochondriasis. The term "Anxiety/Hysteria" includes patients diagnosed as anxiety neurosis, anxiety state, anxiety neurosis with hysterical

features, and hysteria. "Hypochondriasis" is used in this context as a descriptive term occurring in a diagnostic formulation and not as a nosological entity. Reactive depression is more frequent in the new patients. Some patients were, of course, classified under more than one diagnostic category. "Personality Disorder" includes categories such as aggressive psychopath, hysterical personality and immature personality.

TABLE V  
Comparison of Diagnostic Items in Long-term and Control Female Samples

	Long-Term (N=63)	Control (N=169)	
Reactive Depression	10 (16%)	54 (32%)	$\chi^2 = 4.12$ P < 0.05
Anxiety/Hysteria	34 (54%)	42 (25%)	$\chi^2 = 19.74$ P < 0.001
Personality Disorder	13 (21%)	9 (5%)	$\chi^2 = 10.81$ P < 0.005
Hypochondriasis	32 (51%)	61 (36%)	$\chi^2 = 6.15$ P < 0.025
Endogenous Depression	16 (25%)	43 (25%)	$\chi^2 = 0.017$ N.S.
Obsessional Neurosis	6 (10%)	3 (2%)	Numbers insufficient
Schizophrenia	3 (5%)	4 (2.4%)	Numbers insufficient

TABLE VI

*Comparison of Diagnostic Items in Long-term and Control Male Samples*

	Long-Term (N=16)	Control (N=136)	
Reactive/Depression .. .. .	1 (6.2%)	26 (19.1%)	Numbers insufficient
Anxiety/Hysteria .. .. .	7 (43.8%)	27 (19.9%)	Numbers insufficient
Personality Disorder .. .. .	2 (12.5%)	29 (21.3%)	Numbers insufficient
Hypochondriasis .. .. .	11 (68.8%)	54 (39.7%)	$\chi^2=3.82$ n.s.
Endogenous Depression .. .. .	5 (31.3%)	25 (18.4%)	Numbers insufficient
Obsessional Neurosis .. .. .	0	0	Numbers insufficient
Schizophrenia .. .. .	2 (12.5%)	7 (5.1%)	Numbers insufficient

There were too few patients in the long-term male sample to allow tests of significance to be carried out, except in the case of one diagnostic item "Hypochondriasis". For this item the chi-square value approached but did not reach the figure required for standard statistical significance. The distribution of diagnosis is shown in Table VI. On the whole the trends would seem to be similar to those found in the females.

#### CORRECTION FOR INTERRUPTION OF ATTENDANCE

A corrected attendance figure was calculated by subtracting from each patient's total attendance the longest continuous period during which he or she was not seen by a doctor on the staff of the unit. This yielded a sample of 39 females who had a total "corrected attendance" of over 2 years, and these were then compared to the new female controls. Significant differences were shown in only two diagnostic categories, viz. Anxiety/Hysteria ( $\chi^2 = 20.6$   $p < 0.001$ ), which was more frequent in the long-term group, and Reactive Depression which was less frequent ( $\chi^2 = 4.8$   $p < 0.05$ ).

A similar procedure was carried out on the male group. This produced 9 cases who had attended more than two years. Of these 5 had been considered hypochondriacal, 4 fell in the Anxiety/Hysteria category, and one in the Personality Disorders. Four were endogenously depressed, one schizophrenic and one reactively depressed.

#### FREQUENCY OF ANXIETY/HYSTERIA IN MALE AND FEMALE NEW PATIENTS

Table VII compares the frequency of Anxiety/Hysteria in male and female new patients. The difference is not significant ( $\chi^2 = 0.827$   $df = 1$ ). Thus the possible hypothesis that long-term illness in females is related to a preponderance of this diagnosis in new female patients is not supported.

TABLE VII

*Frequency of Anxiety/Hysteria in Male and Female New Patients*

	New Patients		Total
	Male	Female	
Anxiety/Hysteria	27	42	69
Other .. .. .	109	127	236
Total .. .. .	136	169	315

#### DISCUSSION

We have shown that in this department the long-term patients are mainly females of the middle and lower classes, who have small families and fall into the diagnostic category of Anxiety/Hysteria. Cases of endogenous and reactive depression are less likely to become long-term. This is more marked if we exclude cases of recurrent rather than long-term illness. Such cases of schizophrenia and obsessional neurosis as are selected for referral to the Clinic may also tend to become long-term attenders, but the numbers in our sample are too small to generalize.

If discontinuity of attendance is not taken into account, then females given diagnostic labels such as "hypochondriasis" and "personality disorder" are also over-represented in the long-term sample.

A study of this sort cannot hope to explain why female neurotics are more likely to become long-term. They may derive a form of support which the male neurotic can obtain from social interactions during his hours of work. Together with this must be considered the fact that, given similar amounts of discomfort due to neurotic symptomatology, the housewife (particularly with a smaller family) is likely to have more time for attending clinics held during normal working hours. It is also noteworthy that of the small group of sixteen long-term males, only five were working at the time of the survey.

Considering the out-patient commitments mentioned, it can be safely assumed that no efforts are spared to help the patient towards independence or at least to refer them to their own G.P. for the support they may still require. Certainly no patients were attending for research or teaching purposes. Referral back to the G.P. is not easily achieved. Frequently an attempt to do so results in early referral back to the department (Sheldon, 1964). It may be that these patients are not tolerated well by G.P.'s, and the rate at which they change their practitioner would tend to support this. Twenty of the sample of 79 patients changed their G.P.'s at least once since referral to our Clinic. We were able to obtain the figure for the number of changes in the Sheffield region during 1963; there were 19,274 changes in a population of 495,290. This figure was treated as referring to the number of individuals changing in one year, thus producing an overestimate. For the long-term group the numbers of changes per patient were disregarded, thus producing an underestimate. On the basis of the Sheffield figures we calculated the expected number of changes of G.P. for each patient for the time since referral, and these were summed. The difference between the expected number of changes (4.78) and the observed number (20) was highly significant ( $\chi^2 = 11.02$   $p < 0.001$ , 1 df. corrected for continuity).

Although this is a striking finding, it must be borne in mind that of the long-term sample, 10 had moved house, leaving only 10 who had changed their G.P. without a move of house. The figures for movement within Sheffield by the general population are not known, and our finding must therefore be interpreted with caution.

A point often made is that these women would not constitute a psychiatric problem if the presence of clinics such as ours did not act as an encouragement to G.P.'s to refer them for treatment.

There is no clear-cut answer to this question, but one possibility is that in the absence of psychiatric clinics many of these patients would be referred to other hospital departments where their lives become a prolonged round of special investigations and non-specific therapies; evoking from physicians and surgeons such heart cries as that of Gehring (1932) who wrote: "One may indulge in the luxury of terminology and call these persons neurasthenics, or psychasthenics, examples of anxiety neurosis or just plain variants. In any case, they are the bane of the average physician's existence, for they tax his medical skill, his tact, his patience and his endurance . . ."

With psychiatric services becoming available to ever greater sections of the population, it may be that patients such as those constituting our long-term sample represent an expanding mental health problem.

#### SUMMARY

A sample of 79 psychiatric patients registered with a general hospital psychiatric department for more than two years has been compared with control groups of new patients referred to the same department. The following findings emerged:

1. Females were over-represented in the long-term group.
2. The long-term females had fewer children than the controls and higher social classes were under-represented.
3. More long-term females were labelled "Anxiety/Hysteria", "Personality Disorder"

000 "LONG-TERM" PATIENTS ATTENDING A GENERAL HOSPITAL PSYCHIATRIC DEPARTMENT

and "Hypochondriacal"; less frequently as "Reactive Depressions".

4. The 16 male patients were described separately. Unemployment and hypochondriasis were prominent features.
5. The whole sample changed their general practitioner significantly more often than the population of Sheffield.

ACKNOWLEDGMENTS

We wish to thank Professor E. Stengel for the help and advice he has given us in the preparation of this article.

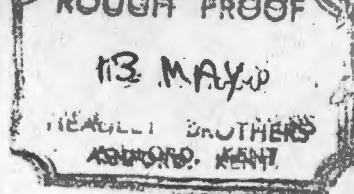
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## Dimensions of Hypochondriasis

By I. PILOWSKY

### INTRODUCTION

The confusion over the definition and nosological status of hypochondriasis has been stressed by many authors. Jelliffe (1931) refers to it as "a strange child in the psychopathological family", and Macalpine (1953) uses the phrase "a stepchild in psychiatry proper". It has been described in terms of the disturbed attitude of health and to doctors and also in terms of the symptoms presented. Factor analysis is a method well-suited to the examination of such a problem and has been used to investigate psychiatric syndromes in order to dissect out the symptom clusters which have been subsumed under a single blanket term. (Hamilton, 1960, Friedman, 1964; Overall, 1962).

This approach to hypochondriasis has been used on two occasions. In both cases the Minnesota Multiphasic Personality Inventory Hypochondriasis Scale (Hathaway and McKinley, 1951) has been the instrument employed to provide the data for analysis. The first study by Comrey (1957) involved the giving of the MMPI to 360 cases of whom 103 were normals and the rest psychiatric in-patients and out-patients. The responses to the hypochondriasis items were intercorrelated and the complete centroid method of factor extraction was followed by rotation using Kaiser's Varimax method. Eight factors were identified and were named Poor Physical Health, Digestive Difficulties, Bad Eye-sight, Lung Damage, Poor Bowel Function, Hypochondriasis, Sinusitis, and Hospitalization.

The second study by O'Connor and Stefic (1959) involved the giving of the same scale to 300 male neuropsychiatric patients. For the final analysis only 30 of the 33 items were used, and the complete centroid method of factor extraction was used. Three primary factors were isolated and named Asthenic Reaction, Vague Somatic Complaints, and Gastro-In-

testinal Reaction. A second-order factor of Poor Physical Health or Health Concern was also identified.

It is not surprising that the factors extracted in these studies related mainly to clusters of physical symptoms since the MMPI Hypochondriasis Scale is essentially a symptom inventory, with no items tapping the individual's attitudes to diseases or to the reactions of those in his environment.

In view of these considerations it was decided to devise a new questionnaire based on a current concept of hypochondriasis which could then be subjected to a factor analysis. It was hoped that the factors which emerged might be more in keeping with clinical experience than those described in previous studies.

### METHOD

#### *The Questionnaire*

In order to obtain an item universe one hundred members of the medical, nursing and ancillary staff of the United Sheffield Hospitals were asked to define "hypochondriasis" and to write the definition on a card. These definitions were analysed using Raven's (1950) method of comparative matching. Briefly, this involved the breaking down of each definition into a number of separate statements. All similar statements were then grouped and their frequency noted. Questions representing the most frequently made statements were included in the questionnaire. Special care was taken to devise questions which would not give affront to the patient. A few additional questions were added because they are of theoretical interest.

The questionnaire (named "Whiteley Index") was then given to 200 patients under the care of the Department of Psychiatry. Of these 100 had been diagnosed as manifesting hypochondriacal features and the other 100 as showing

little or no evidence of hypochondriasis. Hypochondriasis was defined as a persistent pre-occupation with disease despite reassurance given after thorough medical examination. The patients' age and sex characteristics are shown in Table I. The ages differ significantly, but it is unlikely that this would affect the validity of other findings.

TABLE I  
Age and Sex Distribution of Patient Sample

	Hypochondriacal		Non-Hypochondriacal	
	Males N=38	Females N=62	Males N=46	Females N=54
Mean Age	44.03	44.19	37.5	37.37
Standard Deviation	12.1	13.1	16.4	14.3

Of the twenty questions included to tap hypochondriacal attitudes seventeen discriminated significantly between the two groups. For technical reasons this number had to be reduced to fourteen so that other information could be punched on the computer tapes and three questions were therefore excluded. The original twenty questions are listed in Table II. The questionnaires were scored by giving one point for each of the fourteen questions answered in the specified direction. The mean scores for the hypochondriacal patients were: males 8.92 (S.D. 5.15) females 7.9 (S.D. 3.24) and the non-hypochondriacal patients, males 2.89 (S.D. 2.18) and females 3.09 (S.D. 2.13). It is interesting to compare the scores of these two groups with the scores of two non-psychiatric samples. The first consisted of 47 patients (15 male and 32 female) receiving treatment for malignant disease as in-patients in the Department of Radio-therapy of the United Sheffield Hospitals. The mean score for males was 3.2 (S.D. 2.71) and for females it was 4.47 (S.D. 3.2).

The second sample consisted of 15 "normals" who were in fact civil servants attending a course of evening classes. As the numbers are small (8 males and 7 females) their scores have been combined. Their ages ranged from 20 to 62 years with the average being 42.53 years. The average score on the questionnaire was 1.67 (S.D. 2.44).

#### Test Re-Test Reliability

71 patients filled in the questionnaire on a second occasion. The time lapse ranged from 2 weeks to 44 weeks, the average being 18.39 weeks. The scores on the first and second occasions correlated significantly (Product-moment correlation = +0.81  $p < .001$ ).

#### Validity

In order to gain further evidence of validity, a questionnaire seeking information about the patient was devised, to be filled in by the patients' relatives. Four psychiatrists were asked to rate each question on a four-point scale according to the degree which they judged that a "yes" or "no" response would discriminate between a hypochondriacal and a non-hypochondriacal patient. The questions chosen for scoring were those having ratings of 3 or 4 from at least three of the psychiatrists and are shown in Table III.

The questionnaires filled in by the spouses of the 118 new referrals were used. These were scored by giving one point for each specified response.

The product moment correlation between the scores of the patients and their spouses was +0.59  $p < .001$ . When a correlation for attenuation in the patients questionnaire was made the correlation rose to +0.65.

#### The Factor Analysis

The responses of the sample of psychiatric patients were used in the factor analysis. These were intercorrelated to produce a 14 by 14 matrix of product-moment correlations. A principal component analysis was then performed (Cooley and Lohnes, 1963). The first three factors accounting for 53.5 per cent. of the variance had latent roots greater than unity, and these were rotated by Kaiser's Varimax method (1958) in order to facilitate interpretation. The loadings on the unrotated and rotated factors are shown in Table IV.

An examination of the items with high loadings on each of the factors makes it possible to identify them without much difficulty. The items with high loadings on Factor 1 are: B. "Are you bothered by many pains and aches?"; C. "Do you find that you are often aware of

TABLE II  
Item Analysis of Hypochondriasis Questionnaire

Item	No. of patients answering "Yes"		$\chi^2$	
	Hypoch. N=100	Non-hypoch. N=100		
A. Do you often worry about the possibility that you have got a serious illness?	72	16	42.5	p < .001
B. Are you bothered by many pains and aches?	76	19	62.88	p < .001
C. Do you find that you are often aware of various things happening in your body?	65	18	43.58	p < .001
D. Do you worry a lot about your health?	85	33	53.76	p < .001
E. Do you often have the symptoms of very serious illnesses?	40	8	27.67	p < .001
F. If a disease is brought to your attention (through the radio, television, newspapers or someone you know) do you worry about getting it yourself?	45	3	46.08	p < .001
G. If you feel ill and someone tells you that you are looking better, do you become annoyed?	24	8	8.37	p < .01
H. Do you find that you are bothered by many different symptoms?	63	10	58.33	p < .001
I. Is it easy for you to forget about yourself, and think about all sorts of other things?	37	56	6.35	p < .02
J. Is it hard for you to believe the doctor when he tells you there is nothing for you to worry about?	72	28	39.98	p < .001
K. Do you get the feeling that people are not taking your illness seriously enough?	53	27	13.02	p < .001
L. Do you think that you worry about your health more than most people?	55	13	37.45	p < .001
M. Do you think there is something seriously wrong with your body?	44	7	34.11	p < .001
N. Are you afraid of illness?	61	32	15.75	p < .001

Excluded Items	No. of patients answering "Yes"		$\chi^2$	
	Hypoch. N=100	Non-hypoch. N=100		
1. Have you had any treatment which has really helped you?	63	56	0.746	p > 0.05
2. Do you think there is something the matter with your mind?	31	26	0.3	p > 0.05
3. Do you read books and articles for information about disease?	27	15	3.64	p > 0.05
4. Do you frequently try to explain to others how you are feeling?	62	30	19.34	p < 0.001
5. Are you upset by the way people take your illness?	52	21	19.4	p < 0.001
6. Are you upset by the appearance of your face or body?	38	19	7.94	p < 0.01

various things happening in your body?", and H. "Do you find that you are bothered by many different symptoms?". Probably the best description for this factor would be Bodily Pre-occupation.

Factor 2 has highest loadings from items F: "If a disease is brought to your attention (through the radio, television, newspapers or someone you know) do you worry about getting

it yourself?"; I. "Is it easy for you to forget about yourself and think about all sorts of other things?"; L. "Do you think that you worry about your health more than most people?" and N. "Are you afraid of illness?"

This factor seems to be a combination of "disease phobia" and the type of insight which often accompanies these fears when they are encountered clinically. Thus this factor seems

TABLE III

Items in Questionnaire Filled in by Patient's Spouse

1. Is he/she always worrying about the possibility that he/she has a serious illness? ..	Yes	No
2. Does he/she complain all the time? .. .. .	Yes	No
3. Does he/she complain of many aches and pains? .. .. .	Yes	No
4. Does he/she worry a lot about his/her health? .. .. .	Yes	No
5. Does he/she take lots of medicines? .. .. .	Yes	No
6. Does he/she visit the doctor more often than necessary? .. .. .	Yes	No
7. Does he/she think that he/she has every disease he/she hears about (from friends, radio, TV, or newspapers)? .. .. .	Yes	No
8. Do you sometimes get fed up with listening to all the complaints? .. .. .	Yes	No
9. Does he/she seem very anxious about the illness? .. .. .	Yes	No

TABLE IV

Questionnaire Item	Unrotated Factors			Rotated Factors		
	Factor I	Factor II	Factor III	Factor I	Factor II	Factor III
A. .. ..	-.209	+.068	-.136	-.248	+.170	-.044
B. .. ..	-.268	-.209	-.484	-.514	-.102	-.180
C. .. ..	-.263	-.165	-.139	-.292	+.033	+.049
D. .. ..	-.311	+.127	-.246	-.396	+.259	-.105
E. .. ..	-.294	-.224	-.076	-.276	+.031	+.125
F. .. ..	-.253	+.365	+.080	-.145	+.496	+.029
G. .. ..	-.172	-.338	+.482	+.171	+.021	+.515
H. .. ..	-.305	-.147	-.268	-.406	+.04	-.033
I. .. ..	+.180	-.349	-.268	+.03	+.485	+.142
J. .. ..	-.291	-.009	+.074	+.179	+.238	+.16
K. .. ..	-.201	-.252	+.441	+.123	-.097	+.469
L. .. ..	-.295	+.249	+.128	-.148	+.454	+.116
M. .. ..	-.297	-.288	+.235	-.082	+.08	+.368
N. .. ..	-.230	+.509	+.095	-.118	+.592	-.015

to represent the type of hypochondriasis in which the patient asks anxiously for reassurance about conditions which he will often admit he does not really believe that he is suffering from.

Factor 3 has high loadings from items G. "If you feel ill and someone tells you that you are looking better, do you become annoyed?"; K. "Do you get the feeling that people are not taking your illness seriously enough?" and M. "Do you think there is something seriously wrong with your body?"

This factor describes the type of hypochondriasis which is characterized by a firm conviction of the presence of serious pathology accompanied by a paranoid attitude to relatives and medical personnel which may at times be considered psychotic.

#### DISCUSSION

The factors which have been extracted and identified in this study differ inevitably from

those of Comrey and O'Connor and Stefic. In the questionnaire used in this study specific symptoms were not included since neither the nature nor the number of symptoms were considered the major features in the diagnosis of hypochondriasis. However, Factor 1 (Bodily Pre-occupation) probably corresponds to factors extracted in the previous studies.

The three factors identified here correspond correspond well to the types of hypochondriasis frequently described in the literature. Thus Leonhard (1961) writes of "sensohypochondria" and "ideohypochondria", the former referring to bodily sensations and the latter to phobias of illness. Similarly James (1960) divided hypochondriacal phenomena into three categories—the personality trait of body over-concern, hypochondriacal anxieties and hypochondriacal delusions. Glover (1949) describes hypochondria occurring as "hypochondriacal anxiety when the patient has constant but groundless fears"

and as "hypochondriacal sensations in which case he complains of pain or other disturbing sensations."

The failure to respond to reassurance is often described as an essential feature of hypochondriasis (Gillespie 1929, Cobb 1946, Culpin 1931). This feature seems to be reflected in Factor 3, and is a form of behaviour which tends to evoke the doctor's hostility. Thus King (1916) describes these patients as "the terror of the doctor" and Alvarez (1944) advises that we "should try to get them out of the office as quickly as possible because the time they take up is spent to no good purpose". It is hardly surprising that some doctors are disinclined to investigate the patient thoroughly (Mead, 1965). However, it seems important to stress that if the response to reassurance is to be one of the criteria for diagnosis, then the examination on which this reassurance is based should be a thorough one and its nature specified in reports of clinical studies.

#### SUMMARY

In order to investigate the concept of hypochondriasis a questionnaire has been devised. Evidence of its validity and reliability has been presented. This has been followed by a principal component analysis. Three factors have been identified as reflecting three dimensions of hypochondriasis, viz: "Bodily Pre-occupation", "Disease Phobia" and "Conviction of the Presence of Disease with Non-Response to Reassurance". These three factors are discussed in relation to the literature on hypochondriasis. Their nature lends support to those observations which have been based on clinical experience.

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