Hereditary as Influencing Neuralgia

Sydney Herbert
I propose in this thesis to consider the subject of
Inheritance in Disease, and to illustrate my remarks
by special reference to Neuralgia—a disease
which has of late interested me much, and the
dependence of which on hereditary peculiarity has
long struck me.

What is Disease? Although this seems
a comparatively simple question no one has, as
yet, satisfactorily answered it. Perhaps the best
definition we can give is that it is "Abnormal
Life." But it is obvious that such a definition
requires an exact knowledge of what constitutes
Normal Life, but it is by no means easy
to say what does constitute Normal Life. We
may indeed, in the language of Herbert Spencer
define it as an exact correspondence between
inner and outer relations—as a perfect "Equilibrium
between the individual and his environment." Theoretically this is certainly correct; but who
will engage to guarantee that, in any firm in-
stance there is such perfect Equilibrium? To
make this point clear, let us suppose an
individual to indulge in alcohol for many years
without any apparent harm to himself. He dies at the age of 70 from causes apparently more or less natural. Suppose however that, but for this alcoholic indulgence, his term of life would have extended over 50 years, may we not conclude that there was no perfect correspondence between the individual and the specific environment, "alcohol"? The processes of life must have been in a manner more or less abnormal all this time, although the abnormality was at the time undiscernible.

Being, therefore, that we cannot state, in any given instance, that the life of an individual is normal, it is manifest that, when we define disease as "abnormal life," we are giving a purely hypothetical definition. Nevertheless let us, I think, admit that this is the best definition that the case admits of, for although we cannot, in any given case, be absolutely certain that the interaction of an individual and his environment is absolutely normal, we may put a very liberal and fairly certain opinion on the subject.

Granting, then, that a disease may be defined as an abnormal interaction of the individual and his environment, let us see at once what a terrible threat insidiously takes in disease. For what is it that makes an individual that which he is? It is perfectly evident that intensity is the great causal. If the principle of intensity was not more or less pitch—if a man suffered that to a marvellous or nice thing, he could assign no part to intensity as a shape of structure,
1. When two individuals come into sexual contact the offspring is neither exactly like the father nor the mother, but a certain reunion between both, and sometimes the effect of Conjunction is to produce a being which in some particular or particulars, differs widely from either parent; sometimes the effect of such a union is to produce a Reversion; when two parents differ from one another very markedly this not infrequently happens. Darwin cites an interesting case in point. If two varieties of pigeon be crossed, the offspring are apt to revert to in certain particulars to their far-off ancestor the rock pigeon. But it should be remembered that, in this case, we have no exception, the Land of Hindustan, since although the offspring do not take after its immediate ancestor, it yet takes after some ancestor.

If we have seen that the structure of an individual is chiefly determined by heredity, Structure may, however, be remodelled to a considerable extent by the action of the Environment. The animal organism is in fact the plastic and readily forms modified under a constantly acting specific environment. Let us suppose two individuals to come into the world exactly alike, let one is brought...
explained the healthy surroundings of the countryside and education as a man of letters. Let the other be reared in the back alley of a large town and gain his living by manual toil. We know that the one will, in course of time, differ widely from the other.

Hence from the above considerations that the structure of an individual is practically determined by:

I. HEREDITY

II. THE ACTION OF THE ENVIRONMENT

Such being the case, let us, in brief, consider ourselves of the important part which heredity plays in disease. We have defined disease as an abnormal interaction of the individual with his environment. How it is very necessary to observe that this abnormality of interaction depends in very large measure upon the structure of the individual: a human being and a lower animal are equally subject to the influence of a particular virus, let us say the virus of typhoid fever. The former develops the disease, while the latter is entirely unaffected by the poison. Whence this difference? It clearly depends upon structure, but whence this difference of structure? It is manifestly due to hereditary influence. Whence the matter from a high, philosophical standpoint, we must pronounce typhoid fever to be hereditary.

This mode of argument applies to all diseases. Two individuals are subjected to prolonged mental strain, to deprivation of healthy food, and are exposed to unsanitary conditions. The one
Because instead, the other suffer no mental disorder whatever - whereas again this difference is not in all probability, depend upon hereditary peculiarity of the organism. We must, of course, not lose out of account the effect of the long continued action of the environment during the early years of life, for we hold that the environment may mould the individual in a very definite way. But in regard to the moulding action of the environment, we must recognise that the susceptibility to be moulded in particular ways depends largely upon the structure of the individual as determined by heredity. If a number of plants is subjected to exactly the same environment some will grow others will not, so that, as Darwin points out, the tendency to take on a particular structure under a given environment depends, not only upon the environment, but upon the original structure itself. Indeed, this great naturalist believed that the resulting variation is determined chiefly by the structural peculiarity of the organism. It follows from the above line of thought that such structural peculiarity as are not the direct result of heredity, but are here imposed upon the organism by peculiarities of environment, are indirectly the largely dependent upon heredity, since the latter and the action of the environment are the two great causes of structure, as we see that an imposing force in determining structure, and again since the mode of response (normal or abnormal) to any given environment depends upon the structural peculiarity of the individual, we may a priori conclude that heredity enters.
I presume to think that these facts are not improperly borne in mind by Pathologists in estimating the influence of Heredity on Disease. The conclusions are based upon family history. But this history is, in almost all cases, imperfect. It may well be said with much truth that a perfect family history is impossible, for how are we to know that a disease is not inherited from a remote ancestor? An individual may inherit a character belonging to a far off progenitor.

Thus, as already remarked, a fancy pigeon may revert to certain characters belonging to the rock pigeon, an ancestor removed by hundreds of generations. Now if such physiological characters may pass through so many generations, why may not the same be true of pathological variations, and what right have we to assume that a disease is not inherited if we fail to obtain a history of it in the patient immediate ancestors? The family history can at most extend over a few generations. If there is no evidence of the disease in the parent or grandparent let us at once conclude that it is not inherited but such a conclusion is illogical. It must be borne in mind, however, that an individual is more likely to inherit a physiological change from a remote ancestor than a pathological one, because the former is more clearly impressed upon the race than the latter. Not only, necrosis, but the fibrinoid limited to the more immediate ancestor of the habitat.
But, as every careful observer knows, the results are very largely due to negligence of the ignorance, indifference, or deliberate purpose of the patient or his friends.

There is, however, another source of error, and one more apt to be overlooked—i.e., the disease may gradually spread, the tendency to it; that is today, may now simply from generation to generation, until it finally breaks forth spontaneously. How is it when such a case occurs? Are we to say that the individual does not inherit the disease or the province that none of his ancestors have suffered from it? It is obvious that the disease must have a large amount of heredity in it, but all such cases are set down in statistical tables as non-inherited. Cannot we conclude the tularose disease, for instance, to be even more pronounced from generation to generation under certain hereditary conditions than merely the individual? Accounts to the tularose Bacillus? And why, we in such cases justified in discarding the influence of heredity.

For these two reasons (1) That we can only investigate the immediate ancestral history and that, as a rule, but very imperfectly. (2) That the more violence of a disease in the ancestor is an evidence of its absolute non-inheritance by the descendant, it follows that the amount of inheritance indicated by statistical analysis may fall far short of the actual inheritance. If, for instance, we obtain a history of 60 per cent inheritance of a particular disease we may safely say that the actual inheritance is far more.
Having thus prepared these views on the subject of insanity, in general, let us now occupy ourselves with the consideration of the characteristics of insanity in particular.

Of all the diseases of the body, probably the most important, and certainly the most interesting, are those of the nervous system. It is chiefly through this system that the several parts of the body are enabled to act in harmony; when we reflect upon this, when we remember that every active cell in the body is under the immediate control of the nervous system, we shall see at once, how the slightest disturbance of this latter is capable of setting up disorder and action in every part of the organism. Now just as an individual may inherit a strong or a weak muscular system, so, in like manner, he may inherit a strong or a weak nervous system. This weakness of the nervous system may manifest itself in various ways: as insanity, hypochondriasis, mental eccentricity, hysteria, cholera, epilepsy, diabetis, athymia, Maria Peter, melancholia, or scrofula.

Of the kindred of the mental disorder, I shall have something to say presently, meanwhile, we may remark that all these disorders are more or less intercommunicable; they do not stand true if one may so look at it. Insanity is not necessarily inhabited as insanity, epilepsy as epilepsy, or melancholy as melancholy, but each, excepting perhaps cholera, may pass into one or other of the rest. Thus an insane individual is capable of starving epilepsy, oreping, or cholera, or his children. These diseases are each tall, the
offspring and the expression of this nervous disease, but it is a very remarkable indication, partly that of a child of an insane parent develops one of the above disorders, say phthisis, he is less likely to become insane than if he remained for a while. The weakness sets in a fixed spot, if, in fact, less likely to display itself in some other direction.

In searching, therefore, into the inheritance of neurasthenia, we do not confine our attention to the existence, in the progenitors, of neurasthenia only, but seek diligently, for a history of each of the foregoing diseases, keeping careful of course not to put leading questions.

That the neurasthenic patient is often descended from nervous ancestors, none will doubt, and I shall venture to attempt to decide, by an analysis of cases recorded by myself, how far this is true. It is necessary, however, for us first to decide, how far a habit may suffer from neurasthenia independently of an inherited weakness of the nervous system. I think it will be readily granted that an individual with a perfectly well-developed and sound nervous system may become the victim of neurasthenia by continued exposure to certain conditions. The strongest woman or boy is reduced by prolonged tacking and alteration will probably become neurasthenic, but if anyone should doubt that sex under these circumstances she might escape, I, in my opinion, will doubt that she will become a ready victim, if while thus reduced, she is exposed to the influence of the agent.
- a woman who, reduced by prolonged Suckling, 
  Starvation, and the victims of after poisoning, died 
  of Nerurk neuralgia, would indeed be such a 
  rarity that he might indeed by from our 
  calculations. However, the one instance I 
  think really asserts that an individual may 
  suffer from Nerurkia even though his Nervous 
  System be free from the slightest taint of 
  inherited weakness. The like cannot be 
  said of the other Aurora mentioned, a Way, 
  Educate, etc. Way, any individual of Nerurk 
  neuralgia, but we cannot always thus force 
  him to become Epileptic, Atomatic, or 
  Insane. Their considerations lead one to 
  conclude that neuralgia is the expression of 
  a Nerve pathological State, less State, or 
  at all events less complicated than that of 
  character Insanity & Aphasia. I say it 
  is at all events less complicated. The Nerve 
  manifestations of Insanity, Epilepsy, & Aphasia 
  are more or less elaborate; we are dealing 
  with a complicated disorder. Neuralgia on 
  the other hand, is comparatively simple. The 
  main feature is pain, pure & simple. Secondary 
  complications, e.g. modifications of Reaction & 
  Nutritive, do sometimes, but they are not 
  necessary in the Order forms of the disease. 
  They may be absent, while they occur in 
  a more elaborate form of the disease, 
  one which approaches in Complexity the 
  nervous first to seek, and which (slight) 
  is more likely to occur in an individual 
  having an Inhereditary Weak Nervous System 
  than in one endowed with an Inhereditary 
  Strong one.
It is very difficult to be certain in this latter half of the 19th Century, that an individual is perfectly free from inherited nervous tics, though we cannot be certain, in any joint case of headache occurring in a human, an disease from nervous, that absolute correctness belong to the classification, but as a matter of practice we rarely find such an individual perfectly free from nervous pain. So closely is headache connected with anatomy that someone has postulated the thorax as a "prayer for blood." This definition, however, too exclusive, for headache may occur in persons showing no trace of nervous All do not therefore essentially headache but as proves the nervous disease in different degrees. headache should be considered the misfortune of diathesis. The above conclusions are based upon the study of the following cases —


2. Factory girl. 65, chronic Migraine. Father very nervous. Mother has chronic di nervous.
3. Impaired d. & Sir. Cat. 60. Deceased.
Facial Paralysis. Lister (usually so) & Nerve.
Mat. Grandmother. are liable to
dec. Aunt. They rejoin.

4. Impaired d.
Mother (formerly had similar pic.) now
Epileptic
Mat. Uncle. & Aunt.
One Pat. Uncle. death of
two Pat. Aunts. Paralysis
Mat. Aunt. formerly chronic is now
Melancholic

Impaired. Mat. Grandmother. dead (asphyx.)
Mat. Grandfather. died of Whooping
Mat. Aunt. had Chronic Rheumatism.

6. Inherited Weakness.
Mat. Franco. Siblings had Chronic
Rheumatism.
Mat. Nephew. had Rheumatic
Throat. Rheumatic
One Mat. Uncle. had Poliomyelitis.
4. Matria: Woman - at 64 - Married
   Mother long my hirontk. 
   Father was a merchant & Rheumatic Sart 
   Of 5 children by (Same Father) All Rheumatic

   Married; 3 boys & 2 girls. 
   Father presently has Face & Hands' 
   Father lost his life due to Rheumatic 
   Father, Uncle, & Aunt have Rheumatics 
   Two and uncles are Bileptics 
   Their daughter is rheumatic

9. Schoolmister - at 36. Physical 
   Mother my absolute hemiplegic 
   Father is hemiplegic 
   Brother - words & education

    Aunt: Succeeded in Rheumatic 
    Uncle: Father died (of Malaria) 
    Pat: Succeeded healthy 
    Father, uncle, & Aunt have Rheumatics 
    Sister, Father from Hypatia. 
    Strainfully hippocampus now has 
    Epileptic Position 
    1st Seat: Aunt, uncle, Epileptic 
    Three " " " Phthisis 
    Youngest seat: Aunt is my Sotantine

    Father Healthy 
    Mother died of acute liver a
Mat: Cousin is an idiot and brother to my neurasthenic.

12. Interstitial Nephritis
   Women 50: So. married
   Father diseased of Phthisis
   Mother deceased
   Mat: Aunt & 2 nephews are healthy

13. Facial Nephritis
   Girl of 19: Hysterical - has occasional fits of insanity
   Pat: Grandmother, niece of Phtisis, younger brother is an epileptic.

14. Facial Nephritis
   Lady 24: Married.
   Mother throng
   Father, Thyrotoxetic
   Sister, Nephritis
   Sister, Phthisis & Rheumatic
   Two brothers, Rheumatic
   Mat: Aunt: thees of Heart Disease.
   Two Pat: Cousins are Phthisical.

15. Seizure Girl: 16
   Migraine
   Mat: Grandmother, Thyrotoxetic
   Mat: Aunt: Rheumatic
   Mat: Uncle Rheumatic
   Mat: Aunt is Phthisical

16. Migraine &
   Girl: 22: Rheumatic
   Ovarian Nephritis
   Mother, Neurasthenic
   Father throng.
19.

Migraine

Girl: at 16. Migraine alternate with Chronic Lermurtis

Mat. Grandmother: My neurasthenic
Mat. Grandmother: Died of asthma.
Mat. Great grandmother is healthy
Mat. Uncle has Sciatica
Mat. Uncle is Rheumatic

18.

Migraine

Girl: at 19.

Pat. Grandmother is neurasthenic
Mat. Aunt
Mat. Uncle has Rheumatic

19.

Sciatica

Woman: at 43 - Married

Mother: Very neurasthenic
Father: Rheumatic
Sister: neurasthenic
Four Brothers liable to Rheumatic

20.

Facial Neuralgia

Woman: at 26 - Single

Mat. Grandmother is neurasthenic
Mother: Epileptic died of Asthma
Mat. Aunt is Epileptic
Brother: neurasthenic
Two Sisters died of Asthma

Picatia

22. Woman - 45 - Married

Mother, Father, and Father's brothers are Rheumatic.

Father, died of Rheumatism.
Father, died of Heart Disease.

Youngest son is hemorhoid.

Daughter, Phthisical.

23. Woman - 29 - Skipped Hypochondria.

Mother and Father's brothers are Rheumatic.

Mother is hemorhoid.

Father, Phthisical.

Mat. Uncle is Rheumatic.


Father, Mother, and Two brothers are hemorhoid.

Mother, and Father's brothers.

Father, died of Pulmonary.

Mat. Uncle is Phthisical.

25. Skipperin.

Servant girl, 21.

Mother, and Father's brothers.

Mother.

Mat. Uncle is Phthisical.
26. Facial { Mechanic - Cte 29. Epileptic
{ Father } Both Asthmatic
\{ Mother \} Both epileptic
\{ Brother \} Both epileptic
\{ Sister \} Both epileptic

27. Lady - Cte 70. Simple Sceptic
\{ Father \} Very Sceptic indeed
\{ Mother \} Died of apoplexy.

\{ Pat. Grandmother \} Died of Malaria
\{ Pat. Grandfather \} Asthmatic
\{ Mat. Grandmother \} Dyspepsia
\{ Mat. Grandfather \} Dyspepsia

29. Factory Hand - 16. Melancholic
\{ Pat. \} Confused Supposed to have been Asthmatic
\{ Father \} Asthmatic to Drunk
\{ Mother \} An Epileptic
\{ Eldest mat. Aunt \} Asthmatic
\{ " \} Uncle Asthmatic

30. Intestinal \{ Pathean - at 76. Rheumatism
\{ to Drunkes \} to Drunkes
\{\{ Father \} Died of Heart Disease\}
\{ Mother \} has Rheumatism
\{ Brother \} Died of Rheumatism
\{ Son \} (Drinker) Pneumonia.
31. **Nymphie**
   
   
   Father (deceased), died of Apoplexy, Peter Rheumatic.
   
   Aunt, niece, Epileptic or insane.

32. **Facial**

   **Nymphie**
   
   Mother has Facial Tic.
   
   Father was usual pick of family.
   
   Mat. uncle is Nymphie.
   
   Pat. uncle.
   
   Two Pat. Aunts.

33. **Lady, At 29 - syphilis**

   **Facial**
   
   Mother Nymphie.
   
   Father is a Dönnel.
   
   Sister, an Epileptic.
   
   Sister dead (Epilepsy).

34. **Father, At 89**

   **Facial Tic**
   
   Mother, insane, others of Rhettis family.
   
   Pat. Aunts.
   
   Mat. uncle.
   
   Pat. uncle (possibly, tetal tic, Facial Tic) in her insane.

35. **Im mather - At 82**

   **Facial**
   
   Mother had Facial Tic.
   
   Nymphie.
   
   Father, "Bouchiti."" 
   
   A Pat. uncle is fine.
40. O'Farrell
   Lady - at 40, Phthisical
   Mother has Tuss Fascial Tic
   Two Pieces
   Marital
   "Married"
   Sister died of Heart Disease
   From Pneumonia
   "Rheumatic"

41. Meagher
   Lady - at 32, Married
   Mother is Phthisical
   Marian Kinsella
   Father also of Phthisis
   Mat Side Healthy

42. Facial
   Lady - at 45, married
   Kinsella
   Rheumatic
   Mother has their Facial Paralysis
   Father Healthy
   Brother has Rheumatic
   Sister has Meagher

43. Women - at 63, Married
   Facial
   Father Suffered much from Asthma
   Kinsella
   Sister has their Facial Tic

44. Lawy - at 26, Single
   Meagher
   Mother - Meagher
   Father - Asthmatic
   Died young from Heart Disease
   Brother in Phthisical

46. Woman, 27. Named (Spitz) Skutochake.


Infancy: Father died of alcoholism.
Mother has Rheumatic Heart.
Left: Aunt similarly affected.

52. Lady - age 30. Married.
Ovarian: Mother has Rheumatic Heart.
Mother has a circ umbilical node.
The rest: Uncle has a Case of Rheumatic Fever.

Infancy: Father, my name.
Father, died of carcinoma.
All paternal side died of Rheumatic Fever.
Sister, died of anemia.

Infancy: Mother, my name.
Father, died in childhood.
Mother and father died of Rheumatic Fever.

Infancy: Father died of alcoholism.
Father has a circ umbilical node.
Sister, my name.

56. Lady - age 17. Married.
Infancy: Father, died of alcoholism.
Mother has Rheumatic Heart.
Sister, my name.
59
Owen &
Sue - White

Mother & Father

Facial Muralgia

Felt & Coughing

Facial Muralgia

58
Lady - At 24 - Stiff -

Facial Muralgia

Mother & Coughing

Facial Muralgia

Suffering from

Suffering from

Facial Muralgia

Mother & Coughing

Facial Muralgia

Both arm &

Facial Muralgia

60
Workman - At 34.

Facial Muralgia

Daughter - A Conjoined Child

Daughter - A Conjoined Child

Facial Muralgia

Mother is Suffering from Rheumatic

61
Grandson - 25 - ANemic

Facial Muralgia

Mother & Grandmother has a Cough

Facial Muralgia

Father & Died of Malaria
The Boothes are Australian
Frank Hall: Uncle Supposed to be Karelle

62. William - at 23 -
Pat: Some former
Mat: Grandfather - apparently healthy
Mat: Grandmother - had bronchitis
Mother - Facial Kuralpia
Father - Rheumatic Scur
Pat: Uncle - died of Pthies
Pat: Aunt

63. Facial of
Oman Kuralpia

64. Lady - at 70. Married
Mother - Suffered there had ulcers
Father - Healthy
Daughter has Facial Kuralpia
Son: Scur, Scur, Scur

65. Lady - at 19. Canadian
Sup Mammary
Mat: Mother: Facial illness
Pat: Grandfather died of Heart Ill
Father: Scur, Rheumatic
Sister: Died in Childbed
Sister: Kuralpia & Canadian
66. kästulpi | Factory Hand | 23 | Single
Father dead of tuberculosis
Mother had type 1 diabetes
Uncle died of tuberculosis
Aunt died of tuberculosis

67. kästulpi | Shop clerk | 29 | Single
Father has chronic schizophrenia
Mother has type 1 diabetes
Commencing Paralysis at 20
Uncle died of schizophrenia
Two aunts: One is institutionalised
One has severe schizophrenia

68. kästulpi | Factory hand | 40 | Married
(only surviving child of 9)
Another child of Phthisis died
An epileptic
Mother died of phthisis
Father, died of heart disease
Mat: Grandfather
Mat: Aunt died in France

69. kästablepi | Servant girl | 17
Mat: Grandfather died of heart disease
Mat: Grandmother died of heart disease
Father is healthy
Mother: Kästulpi

70. kästulpi | Lady | 36 | Single
Mat: Grandmother died of tuberculosis
Mat: Aunt died in France
Mother died of tuberculosis
41.
Facial
Muralpi

School Comp. at 16. Actual.
Mother suffers severely from Sinusitis.
Father Healthy.
Mat: Aunt formerly Muralpi now Brown.
Paternal Muralpi.

42.
Facial
Muralpi

Lady, 83. Single. Slight. Highly
Nervous. Live in Attics. 10
attacks of Angina Pectoris, 10
also Bronchitis.
Mother died of Pneumonia.
Father... .Slight Bronchitis.
3 Uncles and 2 Aunts.
A. B. A. Phili's.

43.
Facial Muralpi

Nerve.
Mother a Nerves.
Mat: Grandmother died of Pneumonia.
Mat: Grandfather died of Pneumonia.
Left Aunt at the highly Nervous.
Father Healthy.
Paternal aunts died in infancy.
2 Pat. Aunts.
1 Pat. Uncle.
Suicidal Tendencies.

44.
Facial
Muralpi

Lady, Oct 23. Actual.
Mother Healthy.
Father has Chronic Rheumatism.
Male, Aunt child of Pithios. Brother is asthmatic.

75
Facial
Problem - at 14 - anemic
Aunt, had mother is asthmatic / hemiplegic
Mother healthy
Father has short limbs & brother insane.

76
Lymanancy
Facial
Mother had migraine frequently
Father died of Heart Disease
Father always been hemiplegic
Mother

77
Facial
Mother - at 22.
Maternal uncle died of Pithios.
Maternal grandfather is healthy.
Father died of Pithios.
Mother very heavy.
She has facial Neurosis.
Mat: uncle died of Pithios.

78
Facial
Mother had facial Neurosis.
Mother 3 sisters, all Neurotic.
One Pithios.
Pat: Aunt died of stroke.
Pat: Uncle died of Heart Disease.
Fannie
Marlja
Father: 2 daughters, 1 son.
Mother: 2 daughters, 1 son.
Grandfather: Healthy.
Great-grandfather: Healthy.

Maude
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Sara
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Muriel
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Muriel
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Laura
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Muriel
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Sara
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Muriel
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.

Laura
Marlja
Father: 1 son, 2 daughters.
Mother: 2 daughters, 1 son.
84
Owen

Muriel

Father: Hand - at 22
Muriel has Muriel's
Mother: Muriel's
Elder Mat: Aunt died of Rthio's
Pat Side: Healthy

85

Irene

Muriel

Irene is 24.
Muriel is Healthy.
Father: Asthma Meet
Mother: Asthma Meet
Pat: Aunt: Asthma Meet
Pat: Aunt's Chronic Rheumatism
Mat: Aunt died of Rthio's
Mat: Cirrhosis

86

Phra-Matlel

Muriel

Mother: Hand 29 and Muriel's
Father: Chronie Rheumatism
Pat: Died of Rthio's
4 Brothers died of Rthio's
5 Mat Aunts died of Rthio's

87

地震

Muriel

Factory Hand - at 17 and Muriel
Hysterical
Father: Hysterical
Mother: Healthy
Youngest Mat: Aunt died of Rthio's
Facial Nuralgia

88.

Father - had - 50.

Mother - grandparents were healthy.

Father died of malignant disease.

Mother had malignant disease.

Two Pat. uncle died of Phthisis.

Mat. Aunt - died of cardiac disease.

89.

Migraine

Saw - at 28. Married.

Mother - Nuralgia.

Father died of heart disease.

Nurse, Phthisis.

Mat. Aunt - had severe facial neuralgia.

90.

Migraine

Saw - at 36. Married.

Mother - Migraine.

Father - Chronic Rheumatism.

Mother -

Some of Pat. Relatives has had acute onset.

Buster died. 

2 1st cousins, died of Phthisis.

Before entering into the relationship between neuralgia and the many diseases affecting the patient's relatives I shall draw attention to two important facts: viz.: (a) That 73 out of 90 cases occur in females, and (b) That in these the six influence comes...
Chiefly, through the maternal side; this is at any rate true of those cases where the abnormality is transmitted as a recessive, i.e., not the offspring of some other disease. In order to emphasize the latter fact I have arranged these cases in which this has occurred in tabular form.

<table>
<thead>
<tr>
<th>Case</th>
<th>Relative</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Mother</td>
</tr>
<tr>
<td>2</td>
<td>Mat: Aunt</td>
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<tr>
<td>3</td>
<td>Mother</td>
</tr>
<tr>
<td>4</td>
<td>Mother</td>
</tr>
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<td>5</td>
<td>Mother and</td>
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<tr>
<td></td>
<td>Tapestry Aunt</td>
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<tr>
<td>6</td>
<td>Mother</td>
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<td>7</td>
<td>Mat: Grandmother</td>
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<td>8</td>
<td>Mother</td>
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<td>9</td>
<td>Mat: Aunt</td>
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<td>Mother and</td>
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<td>Maternal Sister</td>
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<td>11</td>
<td>Mat: Aunt</td>
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<td>12</td>
<td>Mat: Grandmother</td>
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The following table shows that, out of 1236 cases, 62 are attributable to the mother side and of the remainder, 53 go to point to inheritance from the father's side, and 9 from both sides. In reference to this point, it is not need not forget, however, that the female sex is more prone to hemophilia than the male, we should therefore expect to get a preponderance of inheritance through the mother. The preponderance of hemophilia in the female sex is, no doubt,
largely due to the physical influence of childish care and nursing. It is, I think, largely due to the physical influence of the womanly side, hence, if the above objections we may, I think, conclude from our figures that there is a special tendency for the disease to be inherited from the mother's side, for she, though the disease is more prevalent in the female sex, more is to be found in the female sex. There is no good reason why it should not be readily inherited through the father's side. The germ is almost confined to the female sex and it is so readily inherited through the mother from the maternal grandfather as from the father side.

Although the maternal side is chiefly responsible for the inheritance where the neurosis is transmitted to neurosis, our statistics do not clearly show that the neurosis comes more readily through the maternal side line when it is the offspring of neurosis other than neurosis. We cannot therefore conclude from the above tables that the nervous diathesis (using this term to include all forms of functional nervous disturbance) may be carried through the female then through the male sex.

We have now that neurosis is interchangesale with other neuroses and I now propose to consider somewhat more closely the kindred between some of these neuroses. Let us first concentrate our attention on epilepsy. The likeness between this disorder
and that terrible form of neuroptasia, "phrenitis", which we see not only acute agry, but this anoma, with local signs, is sufficiently striking. The marked sycosis, mental in which either may arise and disappear is worthy of note. Again the alternation between neuroptasia and epilepsy so frequently seen in the same individuals as well as in successive generations of the same family lends support to the conclusion that the two diseases are closely connected. Thus as some of my Cases demonstrate, an individual may suffer, at one time from mania and maniac fits and, at another times, from epilepsy, whereas the former disorder here often show, always to terminate in epilepsy, in individuals primarily brought from the latter.

Speaking of the relation between epilepsy and neuroptasia, it may not be inappropriate to refer here to insanity. We can show that the latter disorder under the close allied to epilepsy, is often the outcome of a first neuroptasia, he may I think conclude that all these are closely related. Neuroptasia has been described, not only to alternate in the same individual with epilepsy, but with insanity also. The pain being passed away during the mental disturbance, only to recur on the disappearance of the latter, and melancholy frequently follows upon such epileptic form neuroptasia. Maudeley referring to this curious connection states: "Neuroptasia and mental aberration, (Lancet 1870, Vol I Page 759) cites..."
The case of a lady who, after the removal of a decayed tooth, suffered intense neuralgia of the left face and this subsequently gave place to melancholia. Some years later, from this intimacy between Mania and Insanity, Case 11 and 49 illustrate well (more particularly the former) that Mania and Insanity alternate in families as in individuals. In this case, the mental disturbance in the patient, manifested itself as hemi-plegia in the children. The presence of various crises points to the same direction, for instance Griffith, in his work on mental disease, refers to the case of a husband who had two attacks of Insanity. The latter causing the death of all six children of this man. Suffered from Mania, but none presented the least trace of Insanity, and the author observes that it is not at all rare to see in a family, certain members suffering from Insanity, others from Mania, and others again from Children of Spleen, and Dr. Handfield Jones (Lancet Vol 2 1867 Page 8) speaking of the intimate connection between Mania and Insanity, notes the case of a man, at 45, who complained of pain between the shoulders. This latter endured, and was followed by violent Mania and Insanity in the right half of the face (particularly in the lower jaw). The attack lasted a month and finally terminated in a fit of violent Mania.

The same author (Lancet)
Vol. 2.--1887. Page 8) relates another case in which periodic sensations preceded neuralgia.

Most of what has been said as to the connexion of neuralgia with epilepsia and insanity is equally applicable to chorosis. Like them, it is certainly hereditary, and its presence in the ancestry of a neuralptic patient supports the conclusion that neuralgia is hereditary. Again as with epilepsia, so with chorosis and neuralgia alternate in the same individual, and in the successive generations of the same family. The alternation is most frequently, perhaps, with migraine, which indeed may not only alternate with chorosis, but coincide with it. Among the authors who claim to have studied this intimacy between chorosis and migraine, Dr. Wyllie is of special importance. He found that chorosic patients are frequently the subjects of their paroxysmal headaches, and in some cases Dr. Jackson noticed that the patient's habit was a history of chorosis.

The relationship between chorosis and insanity is further shown by the fact that the former may culminate in the latter. Thus, a suicidal tendency developing itself in the course of chorosis, finally the intimate relationship between chorosis and insanity must not be disregarded. Although many authorities deny any close connexion between hypnosis and neuralgia, I am firmly convinced, as a result of experience, that the two are closely connected. In doing so, in his work on Hypnosis,
1867, subconsciously holds that the two conditions are distinct, and thinks that the disease so-called in Hysteria is very different from attacks of simple Neuralgia. The latter, as he rightly observes, are confined to definite local areas, whereas in Hysteria any portion of the nervous system may be affected. I cannot but think, however, that the Neuroplastic condition necessary for the production of Hysteria is also responsible for the development of Neurasthenia in members of the same family.

Is there any connection between Neuroplastic and Hysteria? Stedman's and the same work draw a line between Hysteria and Epilepsy as distinct forms and Neuroplastic, and yet I think he recognized the existence of so-called Hystero-Epileptic points to the opposite conclusion. And the same thing is true with the Convulsion. These two forms, as many years ago I think conclude that a history of Hysteria in a neurasthenic patient is evidence of the hereditary nature of the disorder.

Neurasthenia is intimately connected with Neuroplasia. Hysteria for its part, Epilepsy is Hysteria. It must be noted that it is included in many families of Neurotics. It essentially neurotic attacks in persons, not only by the character of the symptoms, but also by the fact that they may alternate with other neuroses, the most frequent being migraine. If therefore a neurasthenic patient has a family history of Hysteria, we have a right to assume that his Neuroplasia is the outcome, in a peculiar or less degree, of the inherited nervous disposition. I was much impressed by the frequency with which my patients presented a family history
of asthma. It might be pointed out, however, that
possibly many of the cases which illustrate this
were but instances of true asthmatic asthma
at all, but of Trench or atypical. I had not
unfortunately been able to eliminate these cases
from the non-neurotic cases, but have been able
to satisfy myself that some of the cases, at
least, are examples of true asthmatic asthma.

In Case 4, in which the intractable asthma was
of the most intractable intractable kind,
the only fact bearing upon his history which
could be disclosed was that his maternal great-
father was a martyr to the same asthmatic
asthma, all the other relatives, so far as
could be ascertained, being quite healthy.
Hence it would appear that in this case
the condition of the nervous system necessary
for the production of asthma in the grandfather
was also responsible for the occurrence of asthma
in the great child.

The following table incluclde the cases which
presented a family history of the disease just considered:

<table>
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<th>Case</th>
<th>Disease</th>
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<td>Pat. Aunt</td>
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<td>2nd Mat. Aunt</td>
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<td>1st Mat. Cousin</td>
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<td>Father &amp; Mother (uncle)</td>
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<td>37</td>
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<td>Son</td>
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<tr>
<td>38</td>
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<td>43</td>
<td>Sister</td>
<td>Father</td>
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<td>44</td>
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<td>Father</td>
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<td>45</td>
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<td>Mat. Grand- Mother</td>
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<td>Mat. Grandfather</td>
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<td>46</td>
<td>Sister</td>
<td>Brother</td>
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<td>48</td>
<td>Sister</td>
<td>Sister</td>
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<td>49</td>
<td>Insanity</td>
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<td>Sister</td>
<td>Mat. Grand- Brother</td>
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<td>54</td>
<td>Sister</td>
<td>Mat. Grand- Brother</td>
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<td>Father</td>
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<td>Mat. Grandfather</td>
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<td>Asthma</td>
<td>2 Mat Cousins</td>
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<td>Epilepsy</td>
<td>Brother</td>
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<td>69.</td>
<td>Insanity</td>
<td>Mat: Aunt</td>
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<td>Mother</td>
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<td>71.</td>
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<td>72.</td>
<td>Insanity</td>
<td>Pat. Aunt, Pat. Uncle</td>
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<td>1 Pat Uncle</td>
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<td>74.</td>
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<td>75.</td>
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<td>Pat. Uncle</td>
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<td>76.</td>
<td>Hysteria</td>
<td>Sister</td>
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The frequent occurrence of Poliomyelitis in the relatives of my patients naturally led me to suspect some causal relation between the two diseases. It is interesting to note that the tendency to Poliomyelitis, according to my notes, comes most frequently through the mother's side.

Mother's Side: 24
Father's Side: 16

And in this connection, it is to be remembered...
that Neuralgia (according to my notes) is more frequently transmitted as such through the father's side, than through the father's side. It is well known that Orthoës seems to drop the prototype of the Epileptic insane, and we had therefore to determine whether there is any real connection between the Acute Temporomandibular and Phthisic.

Some authorities have regarded Phthisis as a distinct nervous, and it has been alleged in favour of the nervous theory of Phthisis, that symptoms of nervous diseases are liable to sudden inflammatory consolidation of the apex of the lungs. This change being brought about through nervous influence, alone. A supporter of this theory might dwell upon the constant occurrence of nervous symptoms in the Phthisic, and certainly one cannot fail to mark the hypostasism of these patients and the frequency with which they are affected with Neuralgia, but this may probably be due to anemia and cachexia which, as we know, are very apt to bring out any pre-existing nervous tendacy.

Dr. Gowers (Epilepsy and Other Chronic Endemic Diseases, page 11) remarks on his head: "It is certain that family history of Epilepsy presents a large proportion of cases of Phthisis, but in the opinion of some writers such as Mithnagel, the frequent coincidence is accounted for by the commonness of lung disease. Others, as Schenckia, believe that the frequent association supports the view that there is a causal relation between the two diseases, and Savage has afforded a smile.
Opinion with regard to Insanity — That there is a relationship between the two is suggested strongly by the fact that, one of Dr. Gower's patients, who possessed no evidence of hereditary idiocy, had lost father, mother, and 6 brothers off from Phthisic, the sole survivor being epileptic.

Gower obtained a history of Phthisis in 9 out of 10 relatives he thinks the Association accidental. If the relatives of Phthisic patients be examined the proportion of cases of neurasthenia is not above the average. While we must regard the fact relation between Phthisis and neurasthenia as still undecided, meanwhile we can but doubt that Phthisis like many other wasting diseases predisposes so to neurasthenia.

The following table illustrates the occurrence of Phthisis in my patients' relatives.

<table>
<thead>
<tr>
<th>Case</th>
<th>Relative</th>
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</table>

1.  Brother
   | Mat: Uncle
2.  Mat: Uncle Pat 2 Aunts
3.  Mat: Grandfather
   | Mat: Aunt
4.  Mat: Uncle
5.  Mat: Uncle
6.  Mat: Uncle
7.  3 Mat: Aunts
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<td>16</td>
<td>Mat: Aunt: Brace</td>
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<td>16</td>
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<tr>
<td>20</td>
<td>Mother</td>
</tr>
<tr>
<td>23</td>
<td>Father</td>
</tr>
<tr>
<td>24</td>
<td>Mat: Aunt</td>
</tr>
<tr>
<td>25</td>
<td>Mat: Uncle</td>
</tr>
<tr>
<td>28</td>
<td>Pat: Grandmother</td>
</tr>
<tr>
<td>29</td>
<td>Mat: Aunt</td>
</tr>
<tr>
<td>32</td>
<td>2 Pat: Aunt</td>
</tr>
<tr>
<td>33</td>
<td>Mother</td>
</tr>
<tr>
<td>34</td>
<td>Mat: Uncle</td>
</tr>
<tr>
<td>34</td>
<td>Mat: Cousin</td>
</tr>
<tr>
<td>41</td>
<td>Father</td>
</tr>
</tbody>
</table>
48  Pat. Cousin
50  Father
53  
56  
61  
62  Pat. Uncle  Pat. Aunt
63  Mat. Grandfather
66  Father  Brother
68  Mother  Brother
70  Mat. Grandmother
72  
73  Mat. Grandmother
74  Mat. Aunt
75  
76  Mat. Sister  Brother

Mat. Sister  Brother
Mat. Grandmother
Children: 2 boys, 1 girl

Boy: Chuck

Girl: Cindy

Girl: 15
Boy: 14
Total: 29

Total Grade: 88
Duckworth, regard such as a distinct neurosis, and there are many in favour of this view, these two may alternate with asthma, diabetes, or migraine. The late Sydenham remarked that "tope" never had the fever and the arrows withdrew during the gouty paroxysm in pruritic les.

should, therefore, not be surprised to find such among the relatives of hernaesthesia, but I have not been left to his case worth recording.

The frequency with which rhematism occurred in the patients, whilst suggests that it would not be vain to attempt to discover some connection between the disease and hernaesthesia, but there are at variance upon this point; and among the prominent ones I may mention D. Ainslie, who refers in some detail to the subject in his treatise on hernaesthesia. When ascertaining the true cause of it requires definite proof of a distinct history of rhematism rhaetism in the hernaesthesia. Subject. In my experience this cannot always be satisfactorily ascertained, but I doubt not that rhematism is a common disease in the patients' relatives and this should not surprise us as it is known, as some authors do, that rhematism is essentially a nervous complaint.

My slight allusion is made to Alcoholic in the cases recorded. The evil effects of Alcoholic excess upon the nervous system are well known. These effects may be transmitted leading to the sympathetic and other conditions (in the offspring) which may readily itself...
To sum up the chief points which I have tried to bring out in this paper:

All diseases are more or less hereditary and Kuruafia forms no exception to the rule.

Kuruafia belongs to a class of the cases termed neuroses. These result from certain disordered actions of the nervous system, occurring, for the most part, independently of any demonstrable alteration of structure. These neuroses are closely related to one another. They are, all of them, more or less interchangeable, as to shown by the fact that they tend to alternate with one another both in the same individual, and from generation to generation of the same family.

We may mentally group together the above facts by assuming a peculiar, abnormal state of the nervous system, to which for convenience we may apply the term Neuroptaxy, and that this abnormal state may express itself in several distinct ways, now as hypnemia, now as epilepsy, alcoholism, and so on.

That such well-defined and specific disorders should be capable of alternating with one another from generation to generation is indeed remarkable.

The tendency is for like to produce...
like. The fact of this alternation can only be explained by assuming a close kinship between the two kinds of disorders, by regarding them, in fact, as the expression of a common condition — a tender, unstable condition of nerve centres.

Bearing in mind this kinship we must in studying the hereditarian of neuralgia distinguish not only its cause but also the occurrence among the ancestors of pain to the extent of which it occurs among the others. We shall then find that the most typical cases of neuralgia occur in individuals who inherit the neuropathic constitution.

[Signature]