1786-1986: TWO CENTURIES OF TEACHING STATISTICS

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1. Introduction

This year (1986) sees the bicentenary of the appointment of August Friedrich Wilheim Crome as Professor of Statistics and Public Finance at the University of Giessen in Germany. While earlier professors (Conring, Achenwall, Schmeizel) may have taught statistics, Crome appears to have been the first professor *with statistics explicitly mentioned in the job title*. His appointment therefore represents a crucial stage in the self- identification of the statistical profession, and the happy coincidence of ICOTS II with the bicentenary of his appointment provides a welcome opportunity to survey subsequent developments, and to draw parallels with the present and lessons for the future.

2. Three themes

In what follows, there are three main themes:

2.1. The institutional development of numeracy

The history of statistics teaching concerns the institutional development of numeracy.

Numeracy is essential for industrialisation and for capitalist production, which demands facility in calculating a series of subtractions: the differences between buying cheap and selling dear, between marginal and average product, between revenue and cost. trade also requires a *numéraire* – a common measure of value. In addition, areas, weights, volumes etc. must be estimated and manipulated. Areas are particularly important for the landed gentry, as early geometry textbooks testify; and if arithmetic is more to do with trade, and algebra with production, then statistics is the methodology of monitoring and control.

Thus: economic development requires numeracy which requires statistics which requires the statistical teaching profession which requires an international conference, which is why we are here today. We are all involved in the *institutional development of numeracy*.

2.2. The faltering search for an academic identity

The history of statistics teaching concerns the faltering search of statisticians for an academic identity.

Statisticians do not know, and have never known, what they are at. Nineteenth century articles agonised over whether statistics is a "science", an art, or a "scientific procedure". More recently we have asked whether the subject is an art, a craft, or a technology (Healy 1978). The mathematics/-non-mathematics distinction is also a subject of lively debate and departmental politics, and symptomatic of an ongoing uncertainty concerning our "true" identity.

2.3. The agonising emergence of a hesitant professionalism

The history of statistics teaching can be seen as the agonised emergence of a hesitant professionalism.

Two key features of a profession are its definition of "relevant knowledge", and control of access by examination or other means. Education provides both these features in good measure. It is no coincidence that increased pressures for the professionalisation of statistics have occurred in recent years, during a period which has seen the biggest-ever "boom" in statistics teaching. In short, *teaching* implies *certification*, which implies *exclusiveness*.

3. Changing Meanings of Words

The historical evolution of linguistic meaning provides an interesting background to any survey of the intellectual landscape. This is especially so with politically contentious words such as "statistics" and "education".

3.1. Meanings of "education"

We tend to view education as a teaching standing in front of a class of students. However, that ain't necessarily so. Many of the old masters were self-taught. Students learn without teachers, and should be encouraged to do so.

3.2 Meanings of "statistics"

The word "statistics" has had at least six distinct linguistic meanings:

(i) ***Data required by the state.*** As the etymology of state-istics implies, early statistics were almost invariably collected by or for the state, whose military and fiscal purposes were often evident, as in the Domesday book and two famous Biblical episodes.

(ii) *Data about the **condition** of the state.* By 1833 a different meaning was developing. The *Penny Cyclopaedia* of that date indicates that statistics involves "collecting and arranging facts illustrative of the condition and resources of the state". Statistics was becoming a tool for implementing and monitoring public policy.

(iii) *Data about the condition of the **people.*** This meaning, not completely distinct from the former one, was close to the heart of many statisticians in the 1830's hey day of statistical societies.

(iv) ***Numerical** data concerning the condition of the people.* The emphasis upon numbers came rather later, around the 1850's. Although the original constitution of the London Statistical Society referred to "numerical information systematically collected", early papers in the *Journal* belied this definition, and numbers rarely featured there.

(v) *Numerical data about **anything.*** This broadening of statistics beyond the social sphere and into biological applications came towards the end of the 19th century, influenced by Galton, Pearson and Weldon. Agricultural, psychological, and industrial applications came later influenced by Fisher, Spearman and Deming, respectively.

(vi) ***Methods of dealing** with numerical data.* Today's meaning – not the final one – emphasises the methodological components of the subject. A further development of this tendency would locate statistics more in the realms of philosophy.

4. Early Attitudes in Statistical Societies and Elsewhere

In Britain, at least, the statistical societies were collections of amateurs, not least in the sense that the participants

- had no training in statistics, and were uninterested in providing such training
- did not see themselves primarily as statisticians.

By contrast, outside the statistical societies, there was considerable interest in statistical training. I mention just two examples

- the British Mechanics' Institutes
- the Institute and Faculty of Actuaries.

These examples are developed in Bibby (1986a, chapters 2 and 3), and in Bibby (1986b).

5. Early Statistical Posts in Britain

5.1. London, and "Jet" Rogers

The first statistical teacher in Britain appears to have been James Edwin Thorold Rogers (1823-1890), also known as "Jet" or "Damn Theology" Rogers. He held the Tooke Professorship of Economic Science and Statistics, which was founded in 1859 at King's College, London. One condition of this Professorship was that:

> *at least Ten of the (twenty) lectures shall take place in the evening so as to admit the attendance of young men and others engaged in business during the day.*

This extra-mural aspect of the chair is interesting in view of what has been said above about professional training – extra-mural classes are clearly not intended as such – and also in view of the fact that Karl Pearson's appointment at Gresham (see below) also contained a strong extra-mural element.

5.2. Oxford

In the 1870's, there was a proposal to establish a chair at Oxford, in which four figures were crucial. William Farr and Francis Galton are well-known among statisticians. The other two, Florence Nightingale and Benjamin Jowett, are less well known in the statistical context.

Florence Nightingale (1820-1910) has been dubbed the "passionate statistician" by many authors. However, she could not have acted in the Oxford context without Benjamin Jowett (1817-1893) who, it has been said, "did probably more than any other single man to let some fresh air into the exhausted atmosphere of the common rooms, and to widen the intellectual horizons of the place". Although Jowett had no formal training in science, he understood its importance for future progress. He also knew that Oxford must change and accept science if the university's survival was to be ensured, and he recognized the need for Oxford to expand its appeal beyond the aristocracy and the clerisy. It is in this context that his support for a post in statistics must be viewed.

6. First Moves Towards a Chair At Oxford (1872–)

6.1. The contributions of Quetelet and Farr

The origins of the proposal are unclear. It might be attributed to Quetelet, who in his *Physique Sociale* commented

> One must regret the fact that even today this rich and fertile *branch of human science finds no place in the higher education of several countries.*

FN's correspondence with Quetelet influenced her greatly. However, William Farr was also involved. His Presidential Address to the LSS (1871) referred to "some far-seeing patriot" who might endow a chair of "politics and statistics". If this was not an officially inspired "leak", I do not know what was!

6.2. Correspondence with Quetelet

The earliest "hard" evidence comes in two letters which FN wrote to Quetelet in November 1872.

Fully 6 of the 8 pages in the first letter recount FN's attempts to get social physics accepted for study at Oxford:

> *I am impatient to see it take its place as a recognised subject among the classes and examinations of our great Universities, Oxford and Cambridge – especially at Oxford, where most of our statesmen, and those who later became Members of Parliament, legislators, administrators and holders of executive power carry out their studies . . . .*
>
> *One of my friends,* [surely Jowett? JB]*very important, very broad in his ideas, a genuine intellectual and philosopher, has recently been elected Chairman of the Committee which chooses the subjects for the Final Examinations . . . . I have taken advantage of this opportunity to put in a word to ensure a place for social physics.*

In similar vein, writing to one of her friends later the same month; Nightingale asked "Did I tell you that when Mr. Jowett was elected chairman for the subjects of the Final Examination at Oxford, I insisted on Social Physics being one?"

However, books and finance for curricular innovation were no easier to obtain in 1872 than they often are now, for Nightingale continues in her letter to Quetelet:

> *However, there is an unexpected problem! I have scoured all the bookshops of London, and am unable to find a single copy of "Physique Sociale". In Paris and Brussels it is the same – sold out. In the end I was found a copy, the only one in London, and I had the honour of presenting this sole copy of M. Quetelet's celebrated work to the University of Oxford.*
>
> *But* [she continues] *you well know that with only one book it would be difficult for several thousand students to study the subject. It would be like the days when the sole book had to be chained to a desk.*

With this, Nightingale urged Quetelet to set about producing a "second" edition – apparently unaware that what she had seen was already the second edition.

Within ten days (a comment on the efficiency of the postal service!) Nightingale had received from Quetelet in Belgium a copy of is *Anthropométrie*, as well as a further copy of *Physique Sociale*. Her second letter expressed "infinite joy" that he had inscribed these books with his name and hers. Continuing in this flowery language, she affirmed that "'Madame L'Alma Mater' est toute disposée a en admettre dans les Examens", i.e. that Oxford University is ready to start teaching statistics.

6.3. Education as a "memorial to Quetelet"

In the event "Madame Alma Mater" worked slowly – or perhaps there was an element of wilful self-deception in Nightingale's optimism. Some fifteen months later, brooding over Quetelet's death, she wrote:

> *I cannot say how the death of our old dear friend touches me: the founder of the most important science in the world: . . . he did not live to see it perceptibly influence in any practical manner statesmanship . . . or Government . . . Nor at all to influence Education, in which it holds no place.*

Elsewhere she writes that "The only fitting memorial to Q. is to introduce his Science in the studies of Oxford".

Unpublished letters from Jowett indicate that for several years after Quetelet's death, he at least had the idea still in mind (Bibby 1986a). However, there is no clear evidence of direct involvement from FN for almost twenty years.

7. Second Moves (1890–)

7.1. Jowett's initiative

Jowett seems to have taken the initiative in resurrecting the plan. In late 1890 he wrote to FN as follows:

> *I want to talk to you upon two subjects. First, about the scheme which Dr. Farr bequeathed to you. I should be sorry to see it given up. If you would give or bequeath 2000£ to the endowment I would bequeath, or perhaps give, a similar sum; and then we might go about begging of rich people in the world.*

This Jowett/Nightingale endowment of £4000 *plus* Farr's sum, *plus* anything produced from the "begging of rich people" must have been extremely ample for the time.

7.2. Galton's involvement

Nightingale agreed with Jowett's suggestion:

> *Of what use are statistics* [she asked him] *if we don't know what to make of them? What we want is not so much (or at least not at present) an accumulation of facts, as to teach the men who are to govern the country the use of statistical facts.*

Jowett thereupon discussed the proposal with, among others, Alfred Marshall. Meanwhile, Nightingale took counsel with Francis Galton from whom she requested

> *A scheme from someone of high authority as to what should be the work and subjects in teaching Social Physics and their practical application in the event of our being able to obtain a Statistical Professorship or Readership at the University of Oxford.*

She cited examples of the need for what would now be called social indicators: education; penology, workhouses and India, and ends up rather nicely by apologising for the length of her message on the grounds that "I have no time to make my letter any shorter".

Some 30 years later, Karl Pearson (1924) called this letter "one of the finest that Florence Nightingale ever wrote", and commented that its points were still as relevant then as they were in the 1890's – and, indeed, as many of them still are today. Unfortunately for Oxford, Galton had little faith in professors, and took the "meat" out of FN's proposal by removing it *away* from Oxford University, potentially a great *training* institution, and towards the Royal Institution, which was essentially a popularising body.

The details of how the proposal eventually failed have been described by Pearson (1924), and more recently by Bibby (1986a). FN eventually revoked her endowment by stressing the importance of training over research:

> *because* [Galton] *does not think it sufficient for the purpose I wished and proposes a small Endowment for Research, which I believe will only end in endowing some bacillus or microbe, and I do not wish that.*

This tongue-in-cheek wording has been used by some authors to ascribe the failure of the project to conflict between the miasma theory of disease (Nightingale) and the new germ theory (Galton). This, however, seems an over-interpretation. Indeed, unpublished correspondence between Karl Pearson and FN's niece does suggest that FN may not have pursued the scheme with her customary tenacity. (She was, after all, over seventy years old!).

However, for whatever reasons, the project did fail, at least in the sense that it did not immediately succeed. Nevertheless, Oxford's loss might have been London's gain – for Francis Galton must have carried some memories of this episode with him when he endowed the Galton Professorship of Eugenics in London some 18 years later.

8. William Farr and London University Examinations

William Farr was Treasurer of the Tooke Memorial Fund which has already been mentioned. He was central to discussions concerning the Oxford chair. Indeed, if there is one key person in British 19th century statistics teaching, it must be William Farr. By 1878 he was examining "Vital Statistics" for London University examinees in "Subjects Relating to Public Health". The following questions indicate the sort of thing that was tested.

1. Describe generally the statistical methods by which the Health of a community can be determined . . .

3. What is meant by expectation of life or mean after-life time? And how is it determined from a Life-Table. If the mean after-life time at age 0 of a stationary population is 40 years, what is the death rate?

4. What is the present death rate in England; . . . in some of the great towns? in the army & and in the navy; in any Friendly Societies? . . .

5. What evidence is there as to the causes of high death rates . . . ?

However, Farr's main involvement in statistics education seems to have been as a prodder rather than a mover (Eyler 1979).

9. Karl Pearson and Gresham College

Gresham College was founded to teach "divynitye, astronomy, musick, geometry, law, physicke, and rethoricke", and in 1890, a Lectureship in Geometry became vacant. The 33-year old Karl Pearson (KP) was appointed; his work at Gresham, and subsequently at University College, have been described by Bibby (1986a) and references cited therein. The following key emphases are expanded there:

- extra mural classes
- emphasis on geometry, intuition, and sampling experiment ("learning by doing")
- close interplay between teaching and research
- the need for links with an applied subject area.

10. Arthur Bowley (1869-1957) and the London School of Economics

10.1. Bowley's survey of statistics teaching

A mile down the Kingsway from University College, LSE opened its doors in 1895. From the beginning, the young Arthur Bowley (1869-1957) used to lecture in statistics on Wednesdays at 5.45 p.m., cycling up from his school at Leatherhead.

Bowley was one of the first to take an explicit interest in statistics education. His address to Section F of the British Association (Bowley 1906) tells of inquiries made among British universities "with a view to ascertaining what facilities were afforded for the study of statistics, whether arithmetical or mathematical" (or, as we should say, today, whether official statistics or statistical method). Bowley reported some teaching at nine uni-

versities (for details see Bibby 1986a), but concluded from his survey that some means other than the Universities must be found to "supply the country with those expert statisticians that so many public departments needs".

10.2. Bowley's teaching

Bowley's famous Wednesday lectures began in 1895 and continued for over thirty years. They were not always well received: his *Times* obituary referred to Bowley as "a diligent teacher but in his care as an expositor he made little or no concession to the student mind", and his lectures were saic "to develop on occasion into a confidential monologue addressed to the blackboard, as he chalked up line after line of formulae".

From 1900 till 1915, when he obtained the first chair in Social Statistics in the United Kingdom, Bowley also held a post at Reading. His lecture-notes show repeated statistical analyses of train-times between London, Leatherhead and Reading.

Bowley made good use of handouts. By good fortune, copies of these are now in Hudderfield Polytechnic Library, and from these we know that his 1897 lectures covered

- (a) Collection of statistics
- (b) Tabulation of statistics
- (c) Criticism of results
- (d) Absence of information

Sections (c) and (d) are of particular interest for "radical" statistics teachers, as indeed are his lecture-notes which partly anticipate certain aspects of Exploratory Data Analysis (stemplots, seven-figure summaries etc.; see Bibby 1986a)

11. Alfred Marshall and the Teaching of Statistics

The economist Alfred Marshall (1842-1924) was involved in Bowley's appointment at LSE, as indeed he had been in the 1890 moves for a Nightingale Chair at Oxford. However, reports on his teaching were none too kind. According to one female student, his lectures at Bristol "reminded her of a boa constrictor which slobbers its victim before swallowing it".

11.1. Marshall, Jowett, Bowley, and the dangers of formalism

Marshal was at Balliol, and a close friend of Jowett. In his *Principles*, Marshall saw the difference between old-style political economy and modern economics as the difference between qualitative and quantitative – concepts which, he wrote,

> *are borrowed from chemistry – a science which deals with things as they are, and not with their growth; and therefore the terms are not exactly what we want. But they must serve.*

Jowett advised him against introducing undue mathematicalisation into his book. Writing to Mary Paley Marshall, he asked her to influence her husband

> *Not to overlay his opus magnum with mathematical forms or symbols; or to imagine that in such subjects these an be real instruments of discovery.*

A few days later, writing to Alfred, he reaffirmed:

> *I do not object to their application to Political Economy provided they are not regarded as a new method of discovery, but only as a mode of expressing a few truths or facts which is convenient or natural to the few whose minds easily adopts such symbols. Political Economy is human and concrete, and should always be set forth in the best literary form: the language of symbols may be relegated to notes and appendices.*

Marshall was acutely conscious of the dangers of excessive formalism. Years later he criticised Bowley's *Elements of Statistics*, which he felt contained "too much mathematics":

> *In my view every economic fact, whether or not it is of such a nature as to be expressed in numbers, stands in relation as cause and effect to many other facts: and since it* ***never*** *happens that all of them can be expressed in numbers, the application of exact mathematical methods to those which can is nearly always a waste of time, while in the large majority of cases it is positively misleading. . . .* ***It is chiefly when the mathematical method is used not for direct construction, but to train sound instinctive habits*** *(like the practising of scales on the piano),* ***that it seems to me generally helpful.***

11.2 The importance of "instinct"

Previously, Marshall had emphasised the importance of "instinct", in criticising least squares. This, he said, has no use in economics, because it assumes symmetry (of disturbances). The student should

> *know roughly, without calculation, on which side of the target the centre of the shot lies. . . . I believe that a Boer marksman, who takes account of the wind, will by instinct get nearer the truth than he by mathematics. . . . Do you not encourage men to neglect the wind?*

Marshall later expressed his ideas on the correct attitude towards statistical data in economics:

The only use (for a student) of the study of particulars is to correct and enlarge his own instinct. He should, I think, read and read and read pages of statistics, not troubling to remember any, but always stopping when he comes to a figure which is not what he expected, and not leaving it without a vigorous attempt to discover whether

(i) his general expectations are framed on a wrong basis, or

(ii) the deviation was due to some cause which he could not have expected to anticipate: so that, though it increases the need for caution, it does not demand a shifting of his general position

Despite Marshall's impressive caution, his writings were remarkable for their innovative usage of simple graphical and statistical methods.

The infinite variety and complexity of nature's forms [he wrote] *is compatible with a marvellous simplicity of their latent principles.*

He developed the following several simple "Rules for the use of mathematics in economics":

(1) Use mathematics as a shorthand language, rather than as an engine of inquiry.

(2) Keep to them [sic!] *till you have done.*

(3) Translate into English.

(4) Then illustrate by examples that are important in real life.

(5) Burn the mathematics.

(6) If you can't succeed in (4), burn (3). This last I often did.

12. Giffen's Textbook

In an interesting early textbook Giffen (1913, pp. 458-477) proposed the following rules for the construction of tables:

1. "Every table should be self-explanatory", that is the headings should be clear and complete.

1a. "The fewer headings should be the headings of vertical columns, and the larger number of headings should be the headings of horizontal columns; but this is not an invariable rule." That is, the number of columns should not exceed the number of rows.

2. "A table should be accompanied by full explanatory notes." (Yule's copy of Giffen's book is annotated here as follows: "When it is impossible to

give adequate explanation in the heading, give in the heading a precise reference to page of the text where the explanation will be found.")

3. "The third rule . . . is *simplicity*, by which I mean the non-inclusion of too many terms in the same table. As a rule, I am for one term only", i.e. only one entry per cell.

4. "Distinguish adjacent columns by different type . . . [or] in MS tables . . . by the use of different coloured inks".

5. "A fifth rule is that of *economy of figures*": do not give too much accuracy. "Percentages should never be carried out to decimal points, unless something turns upon the differences beyond the decimal": two effective digits is usually sufficient.

6. "A sixth rule must be laid down, bearing against the practice of making vertical instead of horizontal lines in the headings of columns." i.e. write column headings horizontally, not vertically. Otherwise "to the convenience of the printer and a false plea of expense, the convenience of the reader, and with it the utility of many statistical tables – the very objects for which they are prepared – are sacrificed."

It is interesting to note here several affinities with ideas more recently expressed by Professors Tukey and Ehrenberg, among others. Indeed, further investigation of these early texts, their reviews, and the way they were used would provide fascinating material about the teaching of statistics at the turn of the century.

13. Germany

13.1. Introduction: Conring, Schmeizel, Achenwall

University statistics is often said to have begun with Herman Conring (1606-1681), who lectured on *Staatskunde* and *Notitia rerum politicarum* at the University of Helmstedt around 1660. However, it is doubtful whether his lectures were recognisably statistical in today's sense. Nor did Conring start a coherent line of descent which can be traced to the present day.

More plausible as the "father of university statistics teaching" is the Transylvanian Martin Schmeizel, who taught in Jena and Halle around 1720 and 1732 respectively. Schemizel was Achenwall's Professor, and several innovations attributed to the latter may be traced to the former. Also, through Achenwall, Schlozer, Süssmilch and the Göttingen school of statisticians, Schemizel's influence can be followed to the present day.

13.2. Crome, Professor of Statistics at Giessen

Now we return to August Friedrich Wilhelm Crome (1753-1833), who was referred to earlier. Crome was an active politician as well as a statistician.

The *Algemeine Deutsche Biographie* describes him as "not perhaps a farsighted politician, but a fine statistician and 'cameralist'."

Crome was, above all, eclectic. Although primarily a geographer, his lectures covered agricultural economics, politics, criminology, finance and forestry, as well as statistics. He pioneered several techniques of graphical and especially cartographical presentation, including that of representing nation-states as rectangles with areas proportional to population or some other statistical variable. Several of Crome's techniques were explicitly developed as teaching aids and he was thus one of the first to become aware by practise that the very act of enforced simplification which teaching demands can concentrate the mind wonderfully, and lead to imaginative new formulations.

Crome's inaugural lecture was entitled "Relationships between politics and statistics" (*Der Zusammenhang der Politik mit der Statistik, und umgekehrt*). His autobiography tells how the evening before this lecture was due, the Vice Chancellor of the University summoned him, and sought to reduce his already-agreed salary by twenty five per cent "on account of the reduction of fruit prices in the area". Crome complained that as an incomer, he could hardly be expected to abide by such whims of the local market. The matter was eventually taken to court, and Crome received his back-pay from the university, along with considerable damages.

Giessen University was thus a pioneer, if somewhat reluctantly, in the early development of statistics teaching. It influenced subsequent moves in Hungary and also in Britain – Rothamsted Experimental Station, which has been so important in the twentieth century development of statistics, owed its beginning to Justus von Liebig and the University of Giessen.

13.3 Gauss and other developments in Germany

Some twenty years after Crome's death, Gauss too was teaching statistics. His topics included least squares (of course!), and applications of probability to crystallography. Gauss taught Richard Dedekind, but appears to have been an unsympathetic lecturer, except possibly to the Dedekinds of this world. He could not be bothered with ordinary mortals, and gifted students, he suggested, could take care of themselves:

> *One does not need to take such a student by the hand and lead him to the goal: one only needs to give him a suggestion now and then, so that he will find the shortest way.*

In those days, as in these, teaching skills carried small kudos compared with research.

14. International Developments

Meetings of the ISC in 1869, 1872 and 1876 discussed the teaching of statistics (Bibby 1985a, b). Central in this was the French Geographer, Emil Levasseur. Quetelet was also instrumental in chairing these discussions and, one must assume, in instigating them.

Around the turn of the century, the ISI established an international commission on teaching, of which Bowley was a member. However, this seems to have fallen victim to the First World War, and it is not till after the Second World War that the ISI really involved itself in teaching statistics (Gani 1979).

15. Statistics in Schools

15.1. Introduction: it is not a new idea!

Statistics in schools is generally reckoned to be a new idea. Barnett (1982) suggests 1957 as a starting-date; Conway (1986) proposes 1930. There is, however, a pre-history (for further details see Bibby 1986a):

- in *Hungary*, probability was taught as part of combinatorics as early as 1849
- in *France*, statistics entered schools via geography, and particularly via Levasseur's (1868) textbook
- in *Belgium*, Quetelet (1846) suggested the idea; and comments have already been made above concerning his influence upon discussions in the ISI and ISC
- in *Japan*, a "Statistical School" was established in 1882.

15.2. Britain: the LSS "Statistics in Schools" Committee

In Britain, the first moves occurred in July 1870, when the LSS established a "Statistics in Schools" Committee. This was the year following the resolutions of the 1869 ISC, and the year of Forster's Education Act, which encouraged contending interest groups to jockey for the inclusion of their pet subject. Among these, the geographers were active. In the Royal Geographical Society (RGS), a proposal was brought forward by "the lively young explorer Francis Galon", to establish a system of examinations which certain public schools were invited to enter. Two gold medals and two silver medals were awarded annually from 1869 to 1883.

Galton's RGS initiative was the model upon which the Statistical Society's subsequent move to encourage statistics teaching were based. The principal instigator was Leone Levi, who in June 1870, "gave notice [to the LSS Council] that in November next he would drawn the attention of the Council to the subject of teaching 'Statistics' in Schools".

Levi had taken part in the discussion of Samuel Brown's (1869) report of the 7th ISC, and in the event he did not wait till November; for the July meeting of Council established a Committee "to consider by what means the Society can promote the teaching of Statistics in Schools and to report to the Council in November next what would be the entire cost the Society would be put to in the matter".

The committee met first on the day it was established: "the Expenses of the Royal Geographical Society in a similar undertaking" were reported on, and the Committee resolved that the first step should be to communicate with head-masters and "ascertain as far as possible whether the movement, if begun, would receive their support" Unfortunately, the aims of "the movement" were not specified. Nor, it appears were the head-masters ever contacted. The meeting then adjourned.

The next and final meeting took place just eight days later. No business was transacted other than to read and confirm the minutes of the previous meeting. With this the Committee disappeared from view after a lifetime of only 8 days – is this a record? The *Annual Report* for that year makes no mention of the Committee's existence, and it seems genuinely to have disappeared without trace – a *Marie Celeste* of the statistical world.

16. Conclusion

The episodes recounted above have been selected to illustrate the evolution of statistics as a discipline and as a profession.The two are indissolubly linked, and it is useful to remember this as we contemplate present-day developments.

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